Notebook System Level 1 Training Material

Statement of Confidentiality

All recipients of this document must treat this training material as ASUS confidential and must not disclose it to any party other than the recipients' employees on a need to know basis, or other individuals authorized under a written Confidential Disclosure Agreement signed by ASUS and the recipient.

Ver. 3.0

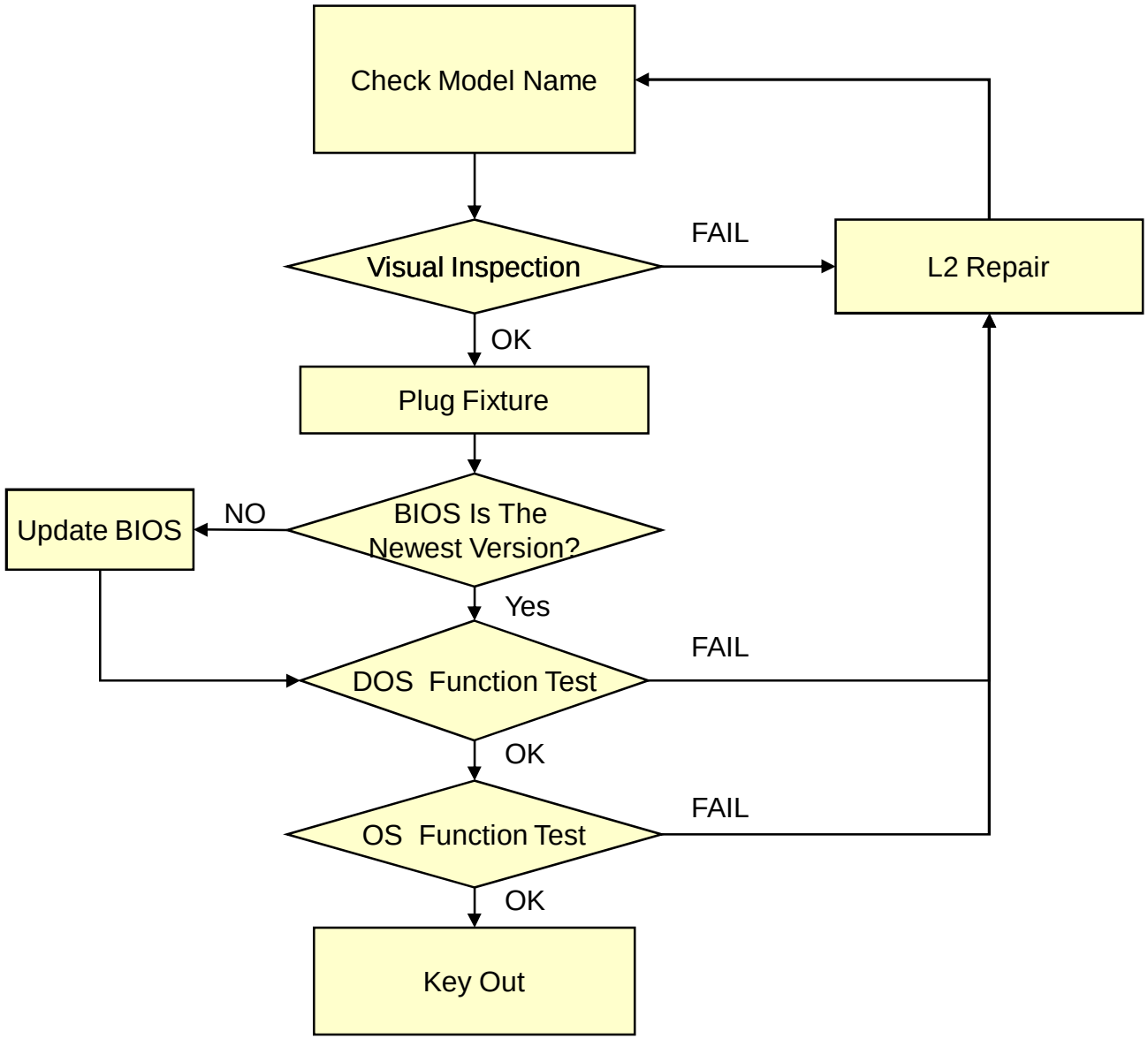
Overview

- Chapter 1 Testing Flow Chart
- Chapter 2 Customer Induced Damage (CID) Criteria
- Chapter 3 Pretest Fixture Package
- Chapter 4 Visual Inspection
- Chapter 5 Plug Fixture
- Chapter 6 Updating BIOS
- Chapter 7.1 USB Boot Up Introduction
- Chapter 7.2 Test in FreeDOS
- Chapter 8 Windows Testing Program

Chapter 1

Test flow chart

Test flow chart



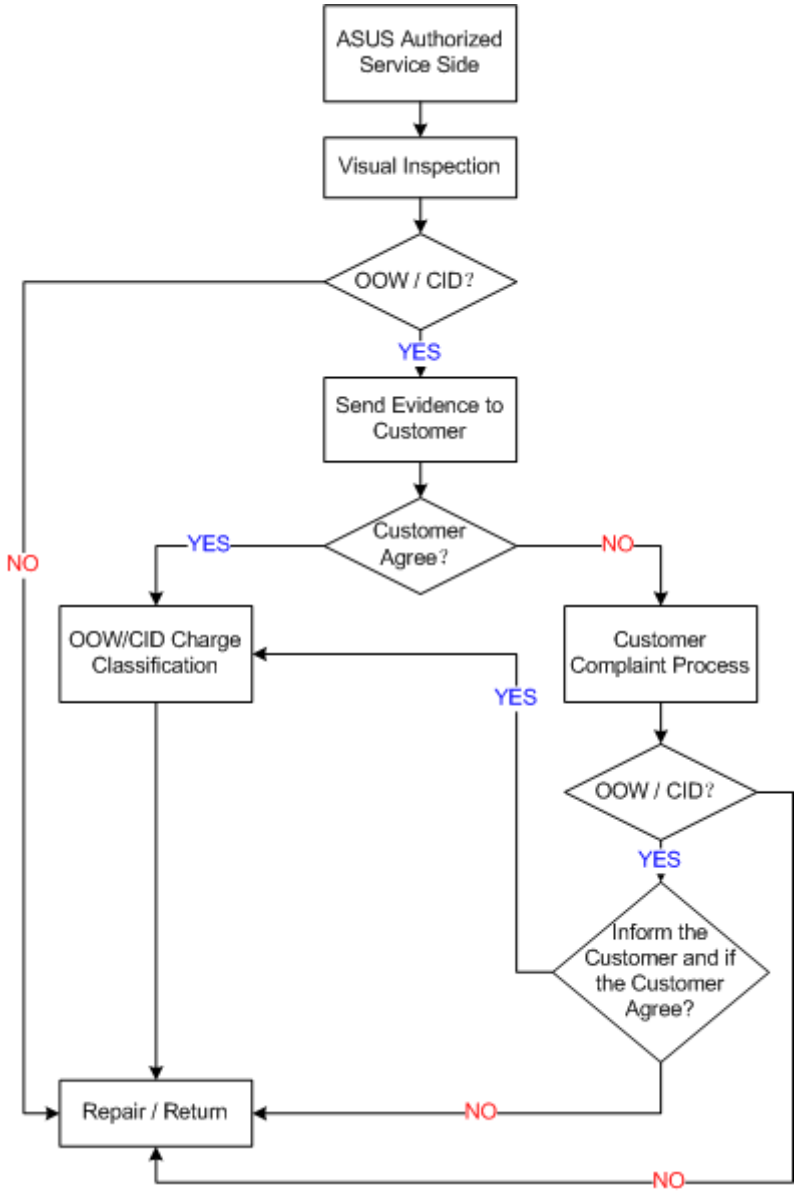
Chapter 2

Customer Induced Damage (CID) Criteria

Content

- CID & OOW(Out of Warranty) Service Process Flow Chart
- CID Outline
  - Surface
  - Keyboard
  - Adapter
  - Mouse
  - ODD
  - LCD
  - Machine

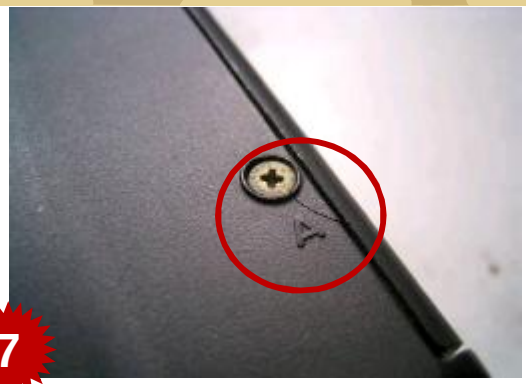
CID&OOW Service Process Flow Chart

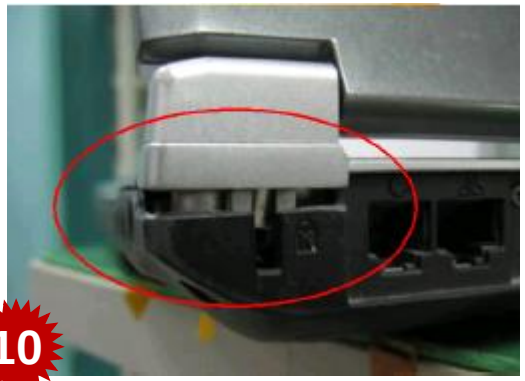


Surface – Painting Peel Off

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Painting peel off [Figure1-5]	LCD bezel or top case worn or painting peel off	Exchange or thicken the rubber	-	Free	Free
		-	Exchange related parts	Charge	Charge
	LCD cover or bottom case worn or painting peel off	-	Exchange related parts	Charge	Charge

Surface - Broken





Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Broken [Figure 6-14]	Not caused by hit or droped	TBD	-	-	-
	Caused by hit or dropped or customer induced	Exchange related parts	-	Charge	Charge

Surface - Broken

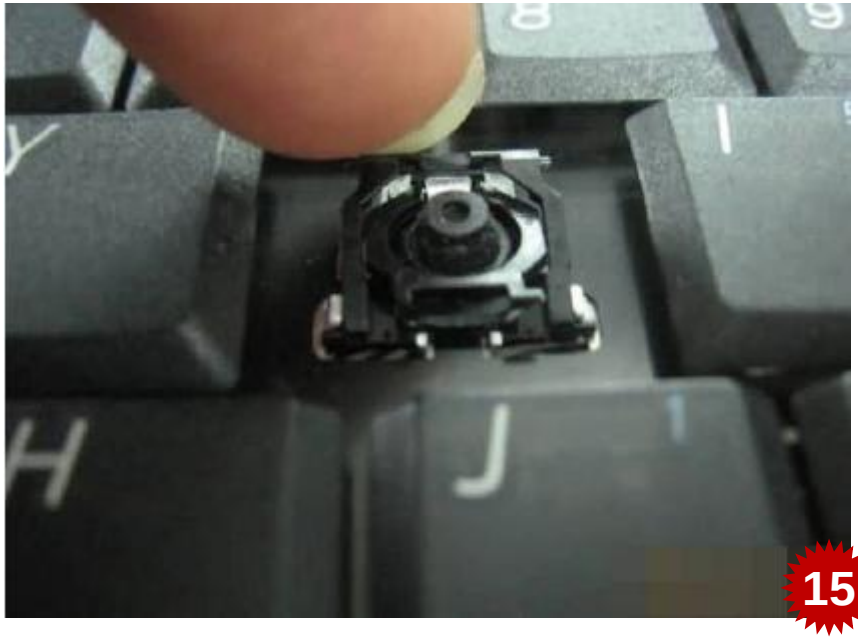
11

12

13

14

Keyboard



Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Keycap drop off [Figure 15]	Keycap drop off (including its bracket)	Reinstall	-	Free	Free
		-	Exchange the keyboard	Charge	Charge

Keyboard - Oxidation

16

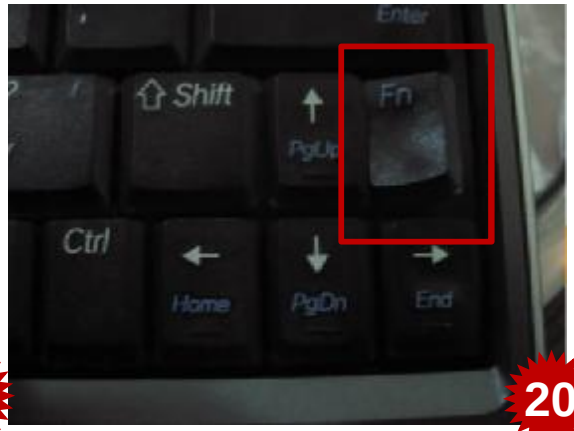
17

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Keyboard Oxidation [Figure 16-17]	Liquid soak into the keyboard and the top case.	-	Exchange the parts which was soaked by the liquid	Charge	Charge

Keyboard - Broken

18

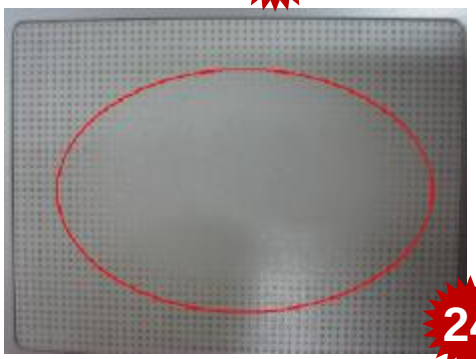
19



20

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
KeycapTwist [Figure 18-20]	Keycap twisted heated by the outside	-	Exchange the keyboard	Charge	Charge
	Keycap twisted by other reasons	TBD	-	-	-

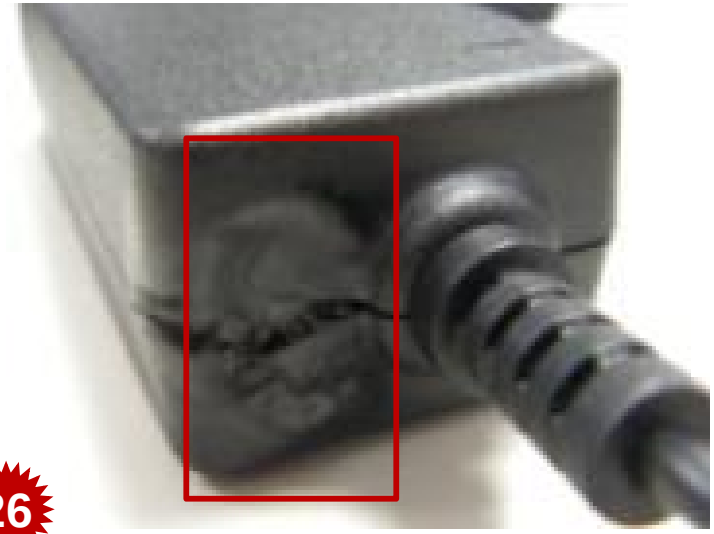
Keyboard / Touch Pad Abraded



Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Keyboard or Touch Pad abraded [Figure 21-24]	Keyboard or Touch Pad was polished by the abrasion.	-	Exchange the keyboard or Touch Pad	Charge	Charge
	The sign on the keyboard or Touch Pad was drop off	-	Exchange the keyboard or Touch Pad	Charge	Charge

Adapter – Surface Damaged

25



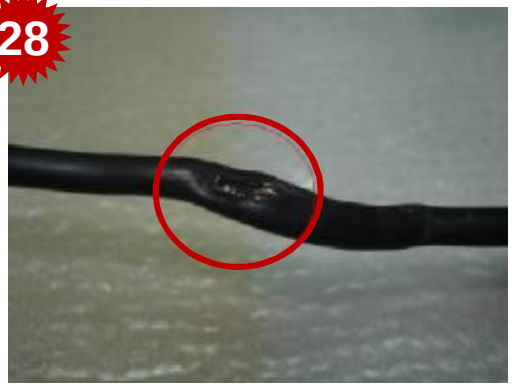
26

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Adapter surface damaged [Figure 25-26]	Adapter surface has water mark or melted or broken.	-	Exchange the adapter	Charge	Charge

Adapter – Cable Damaged

27

28



29

30

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Adapter Cable damaged [Figure 27-30]	Cable broken and the plastic outside abraded	-	Exchange the adapter	Charge	Charge

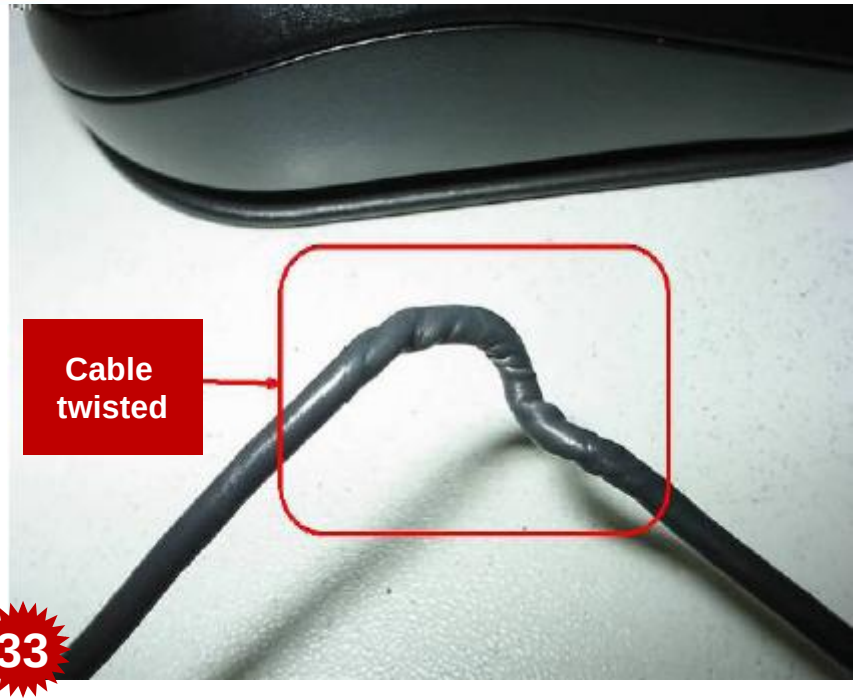
Adapter – Label Damaged

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Adapter label damaged [Figure 31]	Label removed, scribbled or damaged seriously	-	Exchange the adapter	Charge	Charge

Mouse – Surface Damaged

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Surface Damaged [Figure 32]	The surface of the mouse split or damaged.	-	Exchange the mouse	Charge	Charge

Mouse – Cable damaged



Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Cable Damaged [Figure 33-34]	Cable twisted or wire broken	-	Exchange the mouse	Charge	Charge

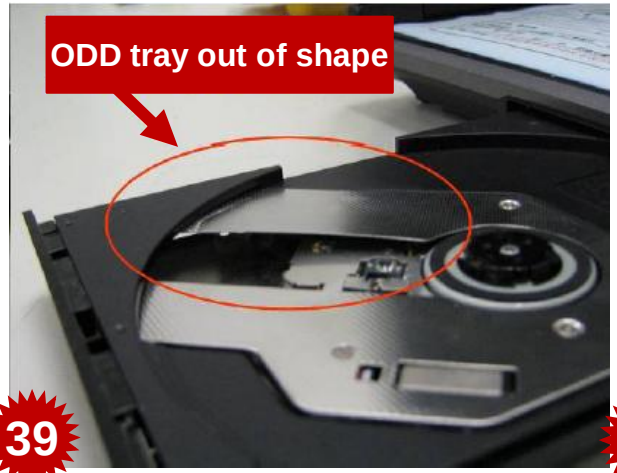
Mouse – Label Damaged

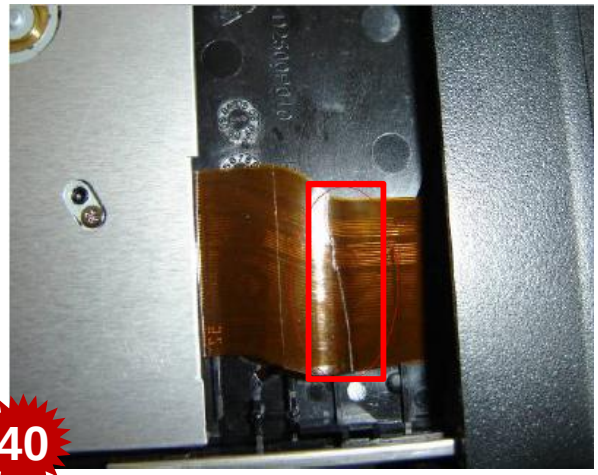
Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Label Damaged [Figure 35-36]	Label tear up by customer or disassembled after damaged	-	Exchange the mouse	Charge	Charge

ODD – Mechanical Damaged

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Mechanical Damaged [Figure 37]	The hook broken, damaged or missed so that the ODD couldn't read the disk.	-	Exchange the ODD	Charge	Charge

ODD – Mechanical Damaged



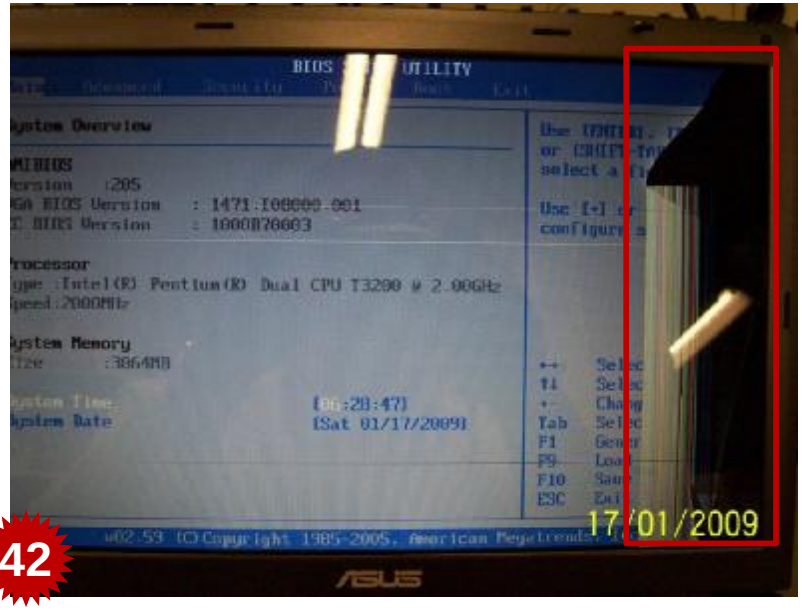


Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Mechanical Damaged [Figure 38-40]	Includes: ODD bracket broken, ODD tray out of shape, data cable damaged, etc.	-	Exchange the ODD	Charge	Charge

ODD

Damage	Comments	Repair Way	Exchange Parts	In Warranty	Out of Warranty
Separate from the main machine [Figure 41]	ODD separates from the main machine, data cable damaged	-	Exchange the ODD	Charge	Charge

LCD

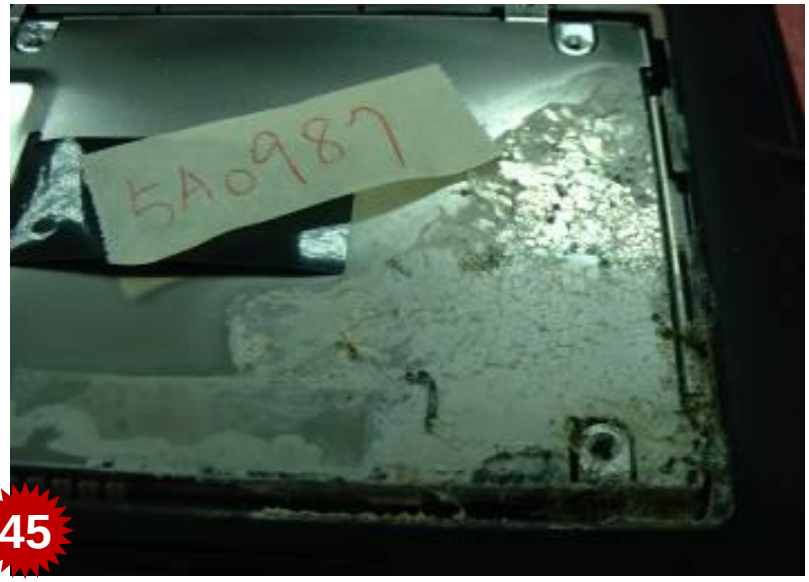


42

43

Damage	Comments	Repair Way	Charge
LCD Broken [Figure 42-43]	Panel crack and mural are considered caused by drop, press or misuse	Replace the panel	Yes

Machine Oxidation



Damage	Comments	Repair Way	Charge
Liquid inside [Figure 44-45]	It may be caused by misuse, ex: (a) Customer try to self-repair and use wrong way to clean to get the oxygenation. (b) Splashed by liquid.	Check other parts and complete function first. Replace the damage parts	Yes

Machine Burned

Damage	Comments	Repair Way	Charge
NB Burned [Figure 46-47]	Require to check the cause of such case carefully and seriously. If unable to judge the endures responsibility, please feedback to ASUS HQ.	Replace the hole NB	TBD

Chapter 3

Pretest Fixture Package

ASUS Pretest Fixture Package

Part Number	Fixture Name	Amount	Photo
20-201400952	PCMCIA Test Fixture	1	
22-220000100	Y-Cable	1	
70-C1OG10-01	Com Port Test Fixture	1	
70-C1OO30-0	Printer Test Fixture	1	
16-000500007	Tools Package	1	

ASUS Pretest Fixture Package

Part Number	Fixture Name	Amount	Photo
22-060001280	Audio Test Fixture	1	
80-C1G036-0103	ENG_EZUSB Board v1.0	2	
60R-R00LA1000	LAN Loop Back	1	
80-C1G036-0301	ENG_EZUSB Board v2.0	4	
22-060000050	USB Cable	4	

ASUS Pretest Fixture Package

Part Number	Fixture Name	Amount	Photo
80-DH1000-16	SCB-2408U/MI/ASUS NB	1	
14-011000040	IEEE 1394 Cable	1	
14-000500500	MINI USB Cable	1	
04-267001510	Adapter10W AD620(US/JPN/TWN)	1	
20-521055550	CD-ROM Testing CD	1	

ASUS Pretest Fixture Package

Part Number	Fixture Name	Amount	Photo
20-J30320101	VGA Board Disassembly	1	
22-240000310	Screwdriver For S200	1	
04-266001000	NB Adapter (90W)	1	
04-266000500	NB Adapter (50W)	1	
14-110060370	Power Cord	2	

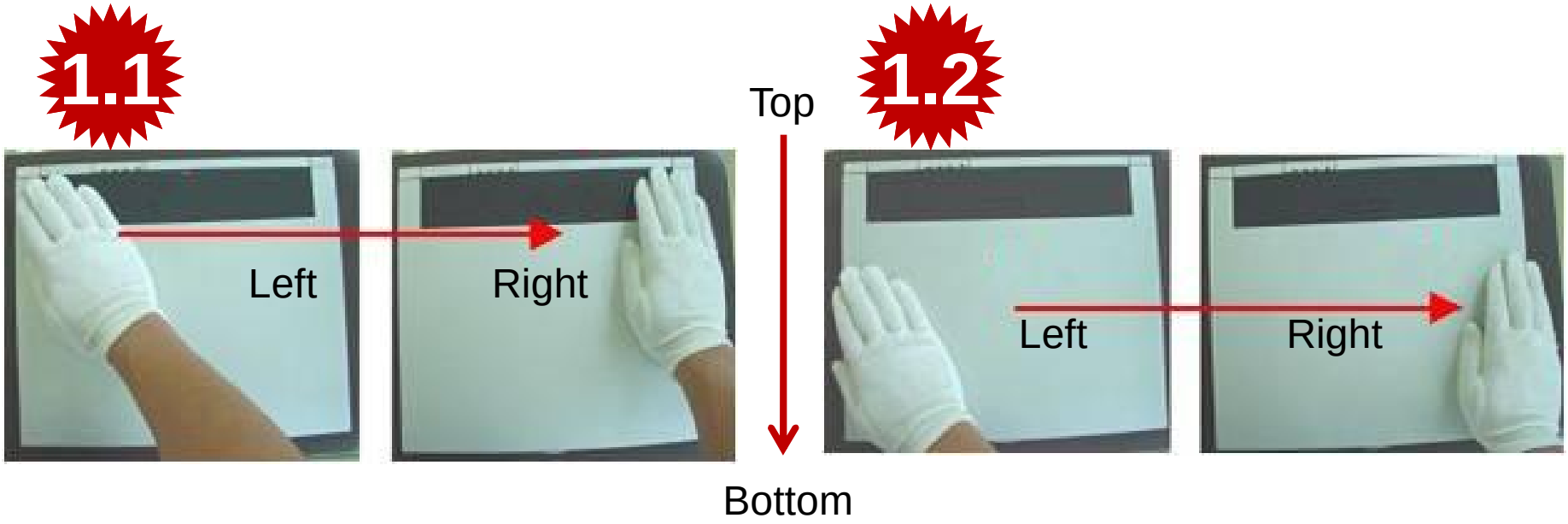
ASUS Pretest Fixture Package

Part Number	Fixture Name	Amount	Photo
	CRT/LCD Monitor	1	
20-T004C2304	Express Card	1	
20-521006264	SD Card	1	
20-T00371104	MS Pro Card	1	

Chapter 4

Visual Inspection

Visual Inspection Manner



1.Method and sequence for appearance inspection
(1)Take down notes while reading:
While inspecting, the operator’s focus need to follow by their hand.

Back Cover & Shake LCD

2.1

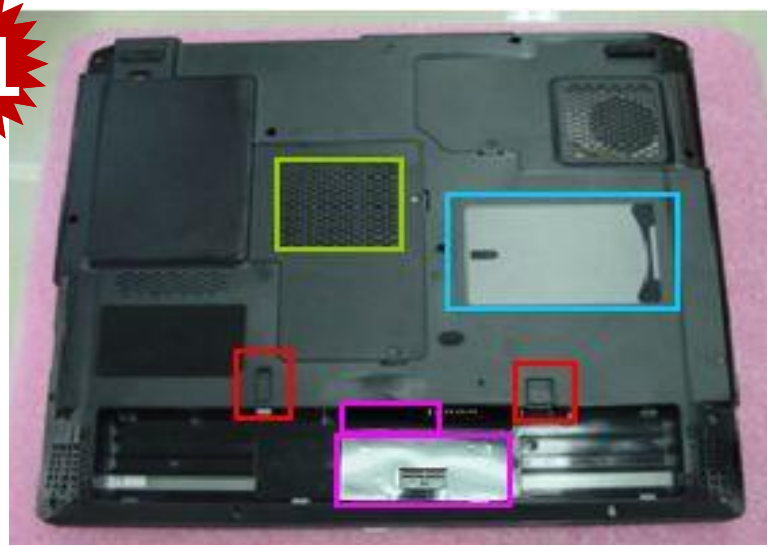
1.Check if the scratch, stain, paint, bright line of LCD cover are under inspection spec.
2.Tear LCD back cover Mylar.

2.2

1.Shake LCD module 3 times to check if hinges have some noise.

Check Bottom Case

3.1



3.2

1.Checking if the gap in the bottom case is under spec.
2.Check bottom case appearance that scratch, stain, print, color different, spray paint defector others appearance need to tally with inspection standard.
3.Check battery latch function well.
4.Check hole of speaker and DDR door no foreign objects.
5.Check the top case Mylar and battery Mylar are on NB, can‘t permit they are oblique or loss.
6.Check business card folder is stick on bottom case(for ASUS A3 series)
7.Check if scratch, stain, print, bright line of bottom case are under inspection spec.

Check Border Area

4.1

1.Check if the scratch, stain, paint, bright line of front side are under inspection spec.
2.Don’t tear bottom case IR lens Mylar.

4.2

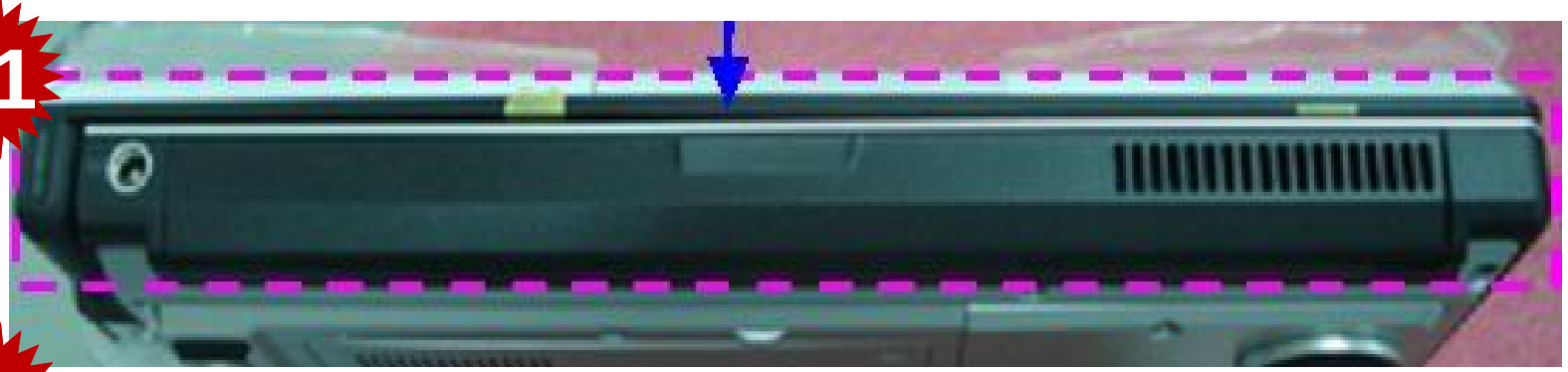
1.Check if the scratch, stain, print, bright line of right side are under inspection spec.

4.3

1.Check if the scratch, stain, paint, bright line of rear side are under inspection spec.
2.Tear LCD back cover Mylar.

Check Inside Cover

5.1



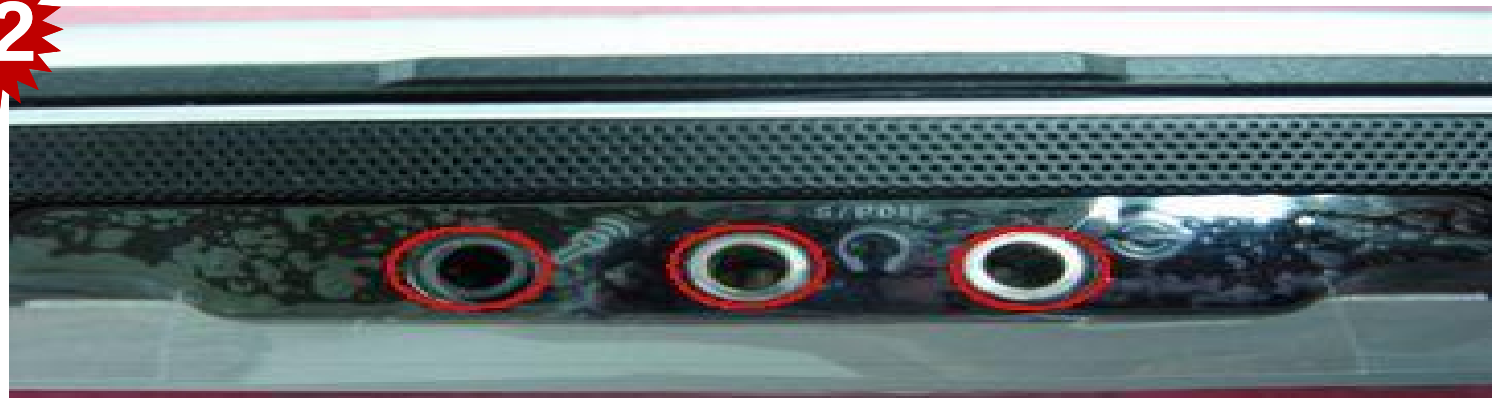
5.2

1.Check if the scratch, stain, paint, bright line of left side under inspection spec.
2.Checking if there is any foreign object inside each jack of NB left side.

Check Gap & Device

6.1

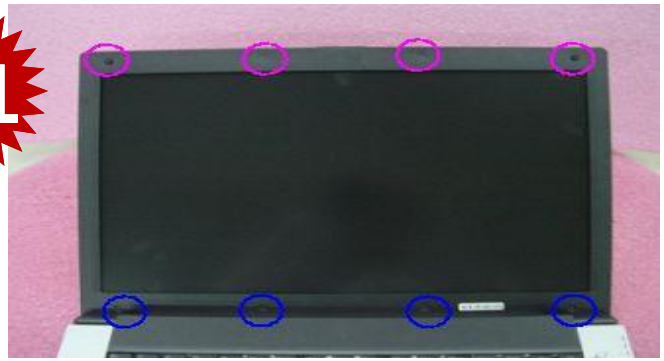
6.2



1.Checking if the gap between LCD module and top case is under spec.
2.Checking if the scratch or pant off on the NB front side is under spec.
3.Checking if there is any foreign object inside each jack of NB left side.

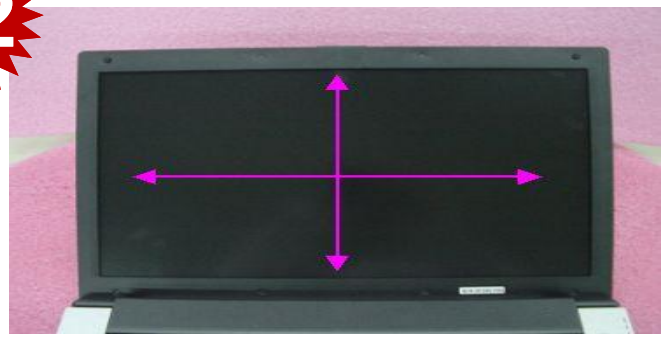
Check LCD Surface & Rubber

7.1



1.Confirm if there is scratch on the LCD panel.
2.Checking the gap between LCD panel and LCD bezel is under spec.
3.Confirm if LCD panel is glare.

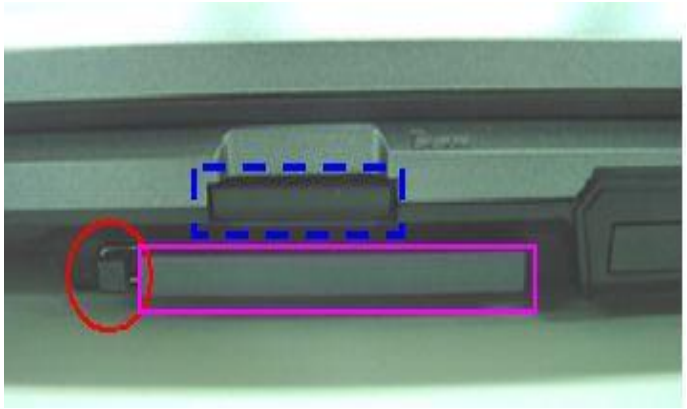
7.2



1.Confirm if there are 4 Mylar & 4 rubbers on the LCD bezel.
2.Check printing logo on LCD bezel.

Check PCMCIA & Top Case

8.1



1.Check if the PCMCIA push button function well.

8.2

1.Checking if there are Windows, Intel inside label, ATI label, CSR label, TNT label, Dolby label, Spec label, Promotion label had stuck on the top case.

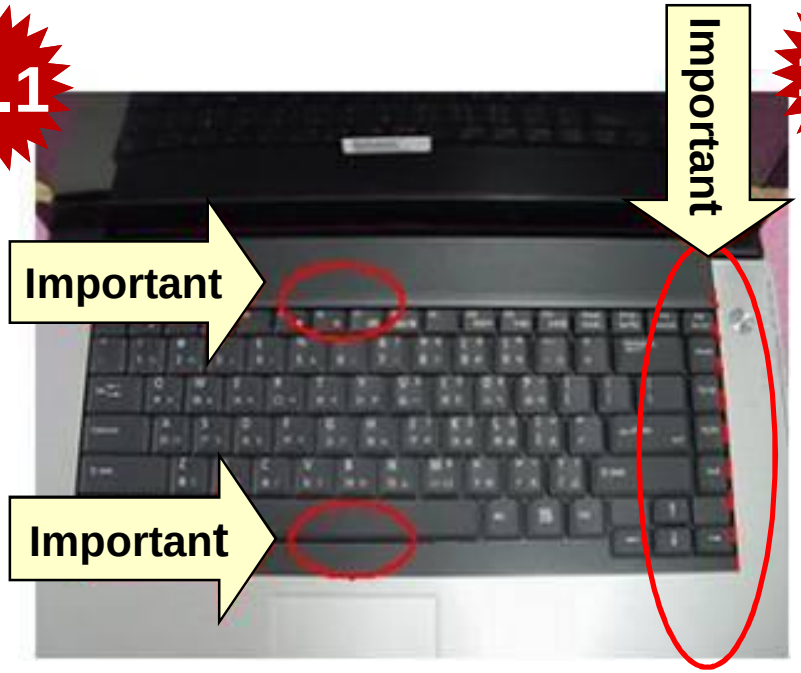
Check Function Button

9.1

1.Checking if the power button and fast key works smoothly. Checking if the gap, scratch, painting off, color difference or others surface defect of button are under standard.

Check Keyboard

10.1



10.2

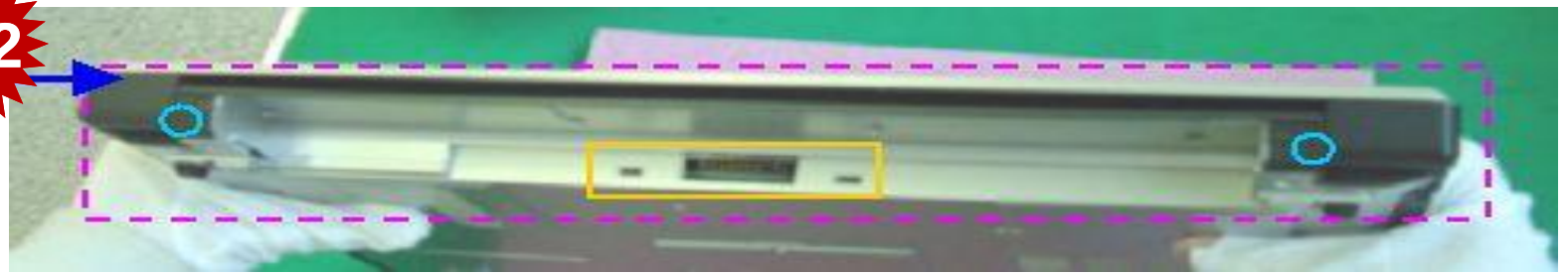
1.Checking if the K/B right side cannot saw VAG thermal module.
2.Make sure K/B and K/B cover wedge in top case and GAP under spec.
3.Use the palm of both hands to hit lightly K/B and make sure key of K/B have not floating, missing, noise and moving.

Check Bottom Case & Charge Pin

11.1

1.Checking if the gap, scratch, stain, painting off, color difference or others surface defect of bottom case are under standard.
2.Checking if the battery can slide smoothly and functioning.

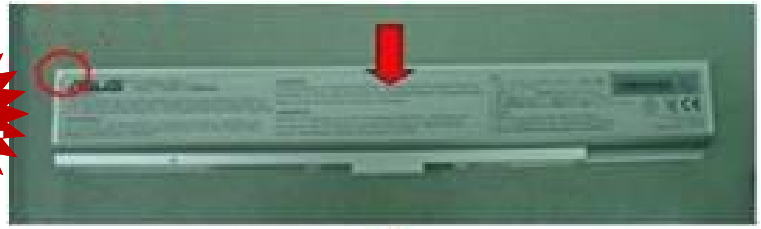
11.2



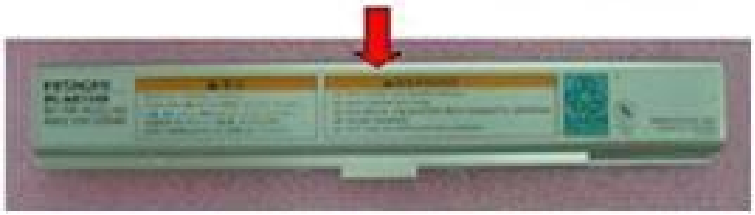
1.Checking the gap between hinge covers and top case are under spec.
2.Checking if the scratch or pant off on the NB back side is under spec.
3.Checking if there is any foreign object inside each jack of NB right side.
4.Checking if there are 2 screws Mylar in the bottom case.

Check Battery & Warranty Label

12.1



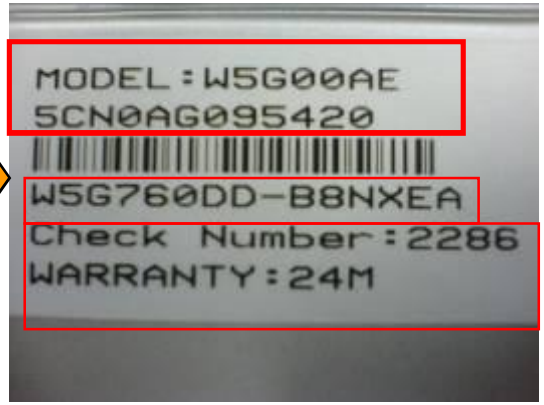
For ASUS



For
HITACHI(OEM)

Label cannot stuck over frame.

12.2



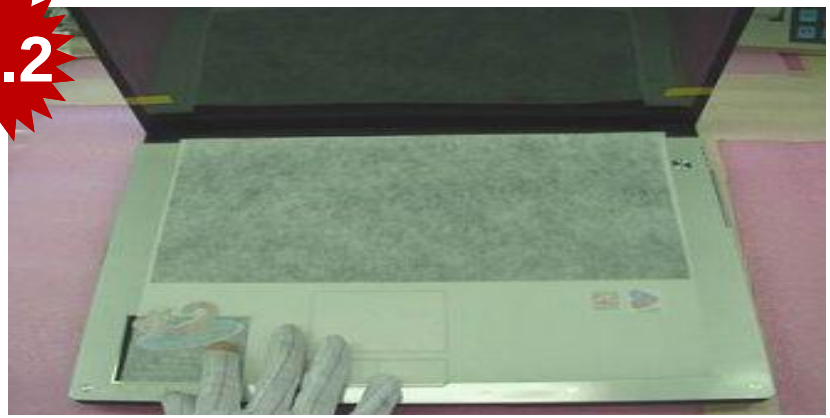
Check machine model
number Name EX:W5AE

Check All Label & Cotton Paper

13.1

1.Confirm that number of 90 S/N pasted on machine is the same with on traveling card on bottom case.
2.Take the label-checking Mask putting on bottom case.

13.2



Put a anti-dust on the keyboard.

Chapter 5
Plug Fixture

Plug Fixture

1. Connect LAN Loop Back Plug

2. Put Test CD into ODD and reboot to run ASUS NB pretest programs

Plug Fixture

3. Connect USB port plug.

4. Connect MS PRO card plug.

Chapter 6

Updating BIOS

Content

- Flashing BIOS introduction
- Preparation
- Flashing BIOS in Operating System
- Flashing BIOS in DOS mode
- Flashing BIOS in BIOS setup utility
- Jig Board

Flashing BIOS Introduction

Updating BIOS could be the first option for the troubleshooting of the Notebook PC because the new BIOS revision will solve some problems. (Read the BIOS release information provided on the download site before using.)

Four ways to flashing BIOS:

Software:

1. Winflash in Operating System
2. Aflash in FREEDOS
3. Easy Flash in BIOS SETUP UTILITY

Hardware:

4. Jig Board

Warning:

Careless updating can result in your Notebook PC having more problems.

Preparation

Before starting flashing BIOS, please plug in the adapter so as to avoid the power off in the flashing process, which will lead to the BIOS flashing failure.

Flashing BIOS
in Operating System

Precondition

Two preconditions mentioned before starting to update the BIOS in OS:

1. Download the exact BIOS files from the ASUS website

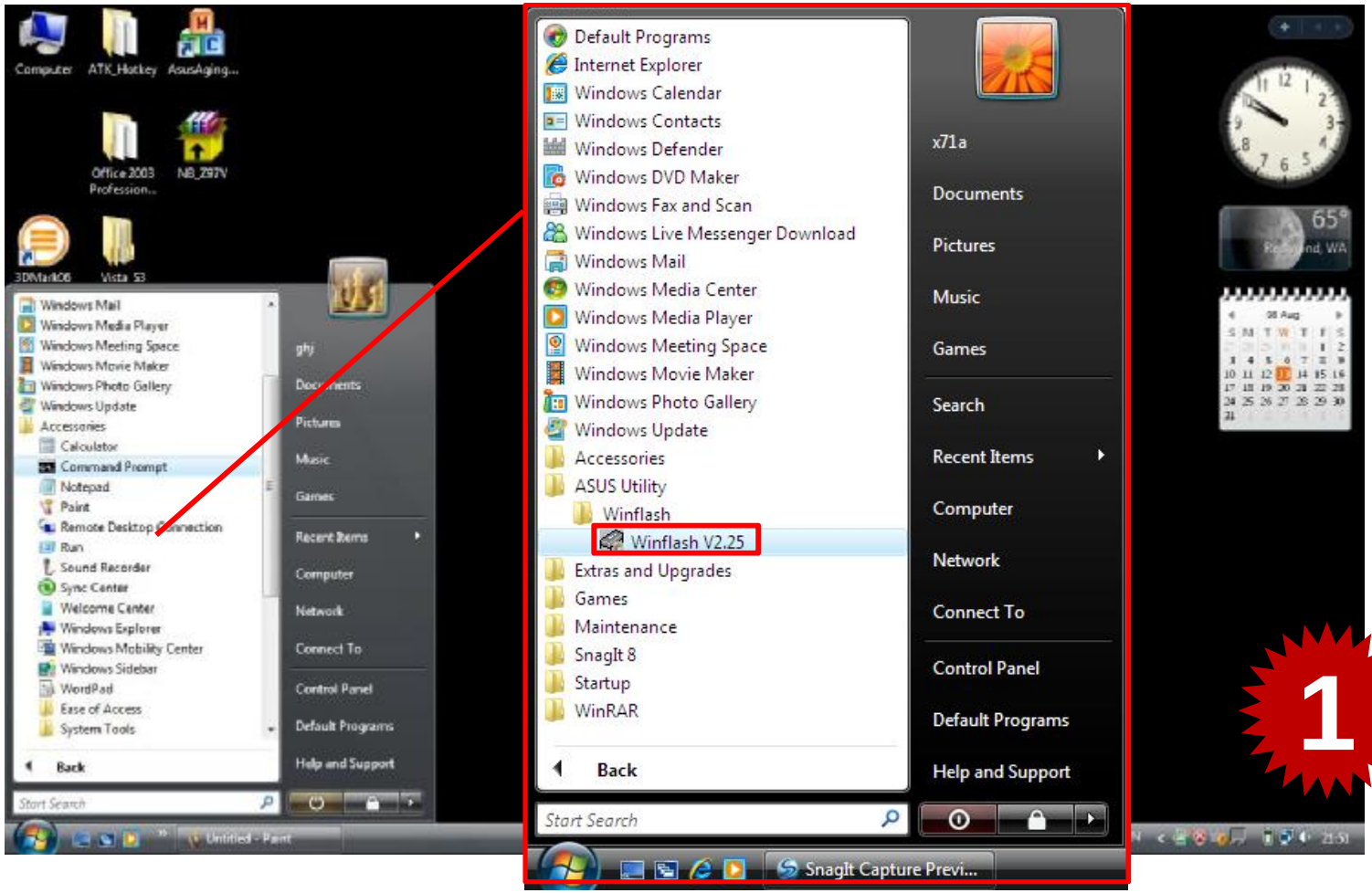
- Before starting updating BIOS in OS, please verify the NB model then download the corresponded BIOS files from the ASUS website.
- The BIOS file can be found in the website as below:
  http://www.asus.com

2. Please ensure the updating program 'Winflash Utility' has been installed in your NB before you start BIOS updating.

   The program can be installed from the Driver & Utility CD.

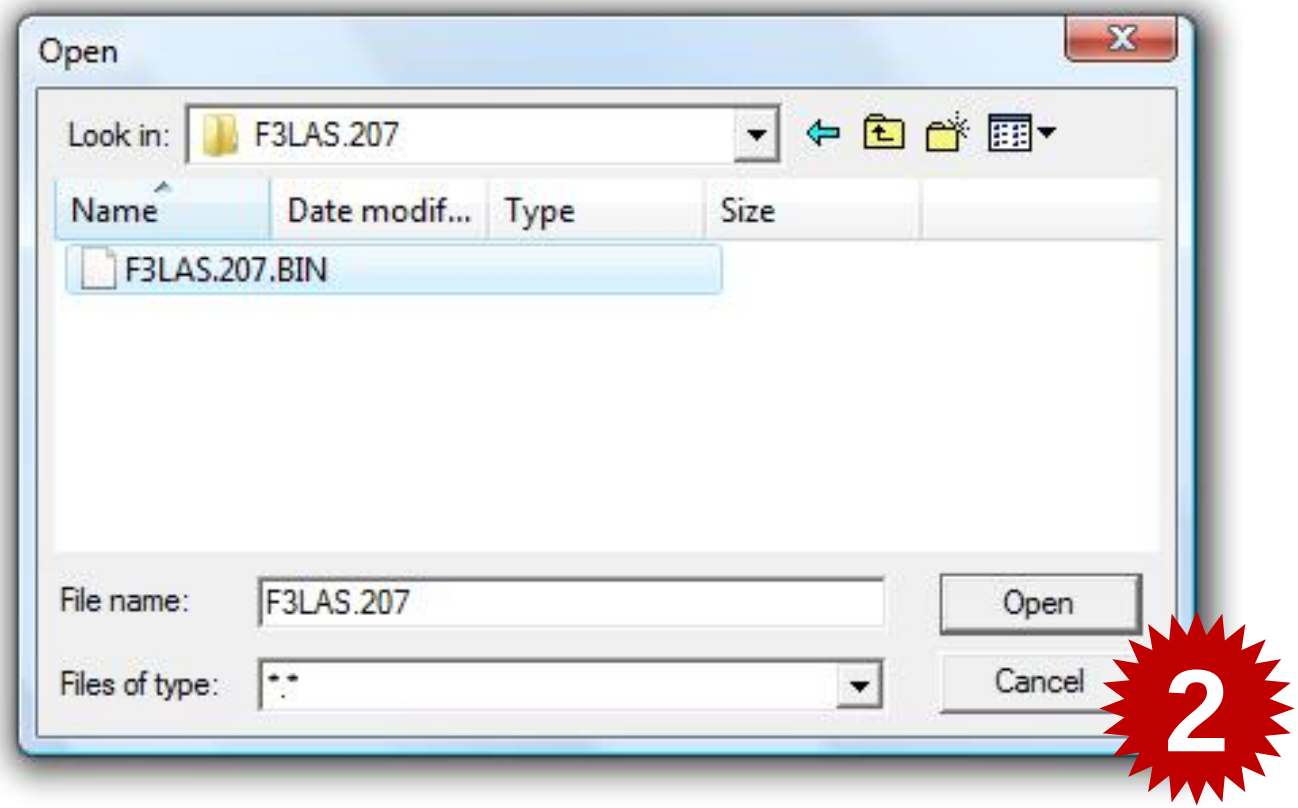
Flashing BIOS in Operating System

1. Open the program “Winflash”
   Click Start\All Programs\ASUS Utility\Winflash\Winflash V2.25



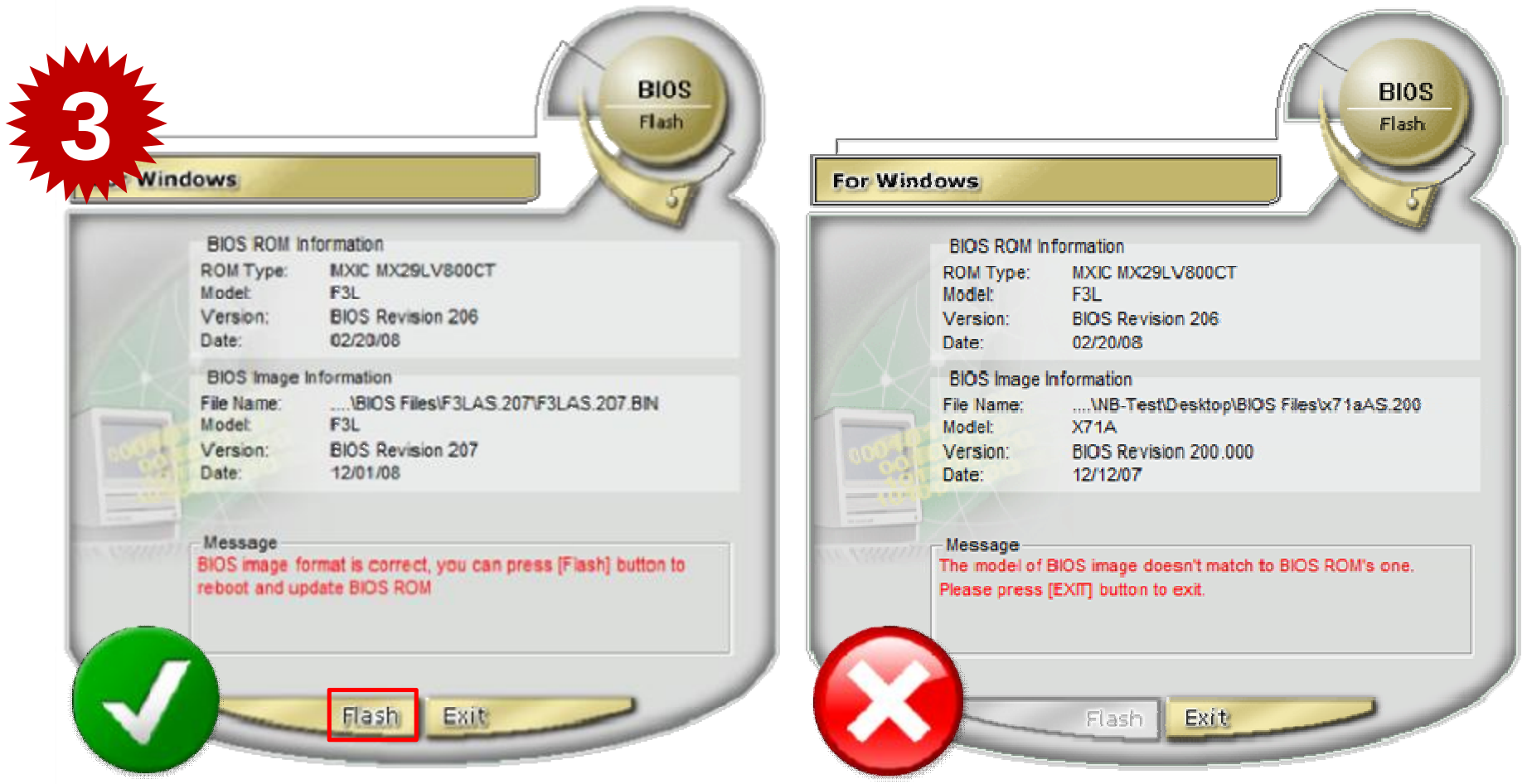
Flashing BIOS in Operating System

2. Select and open the BIOS files downloaded from the website.



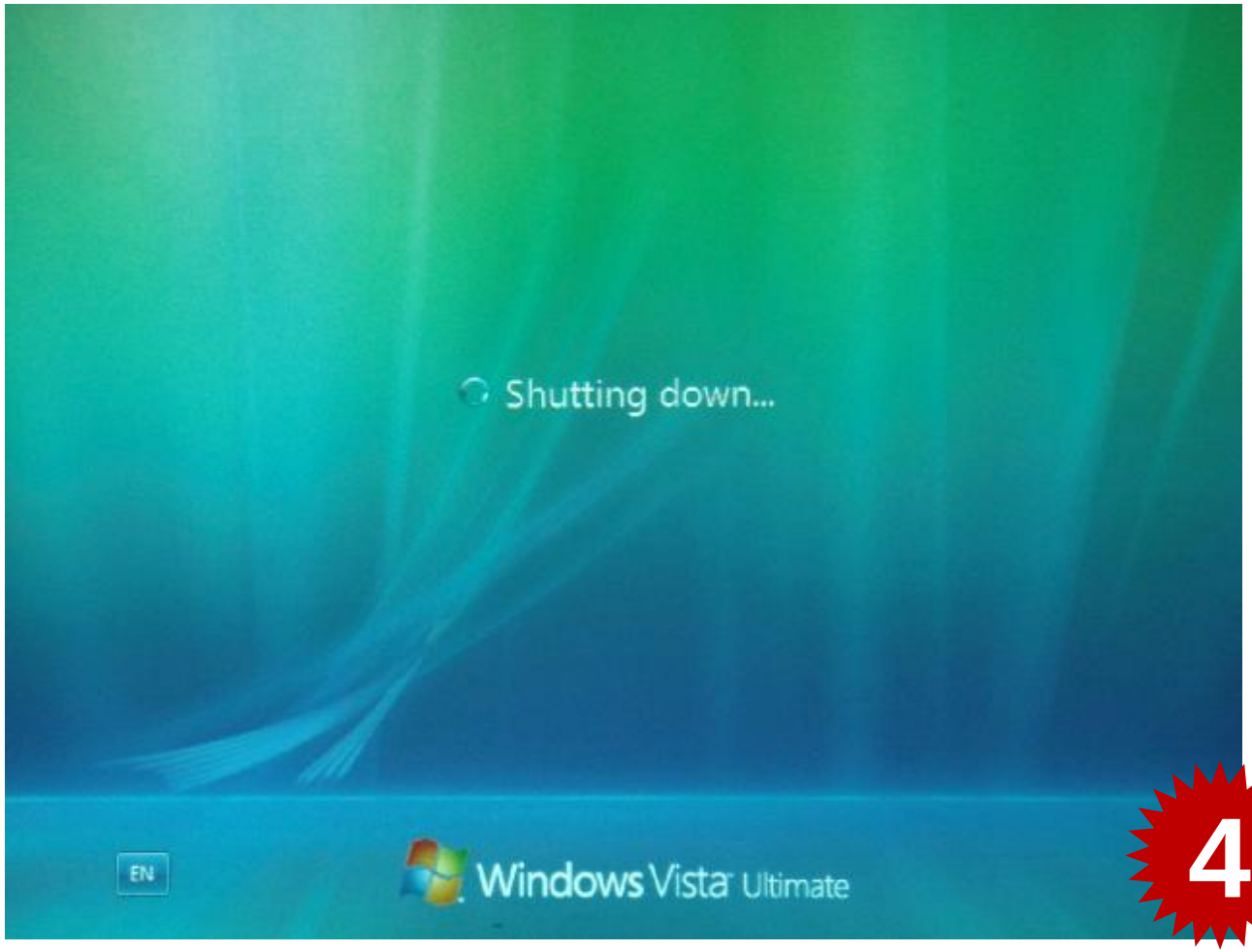
Flashing BIOS in Operating System

3. Confirm the BIOS information is correct and press “Flash” button to start.



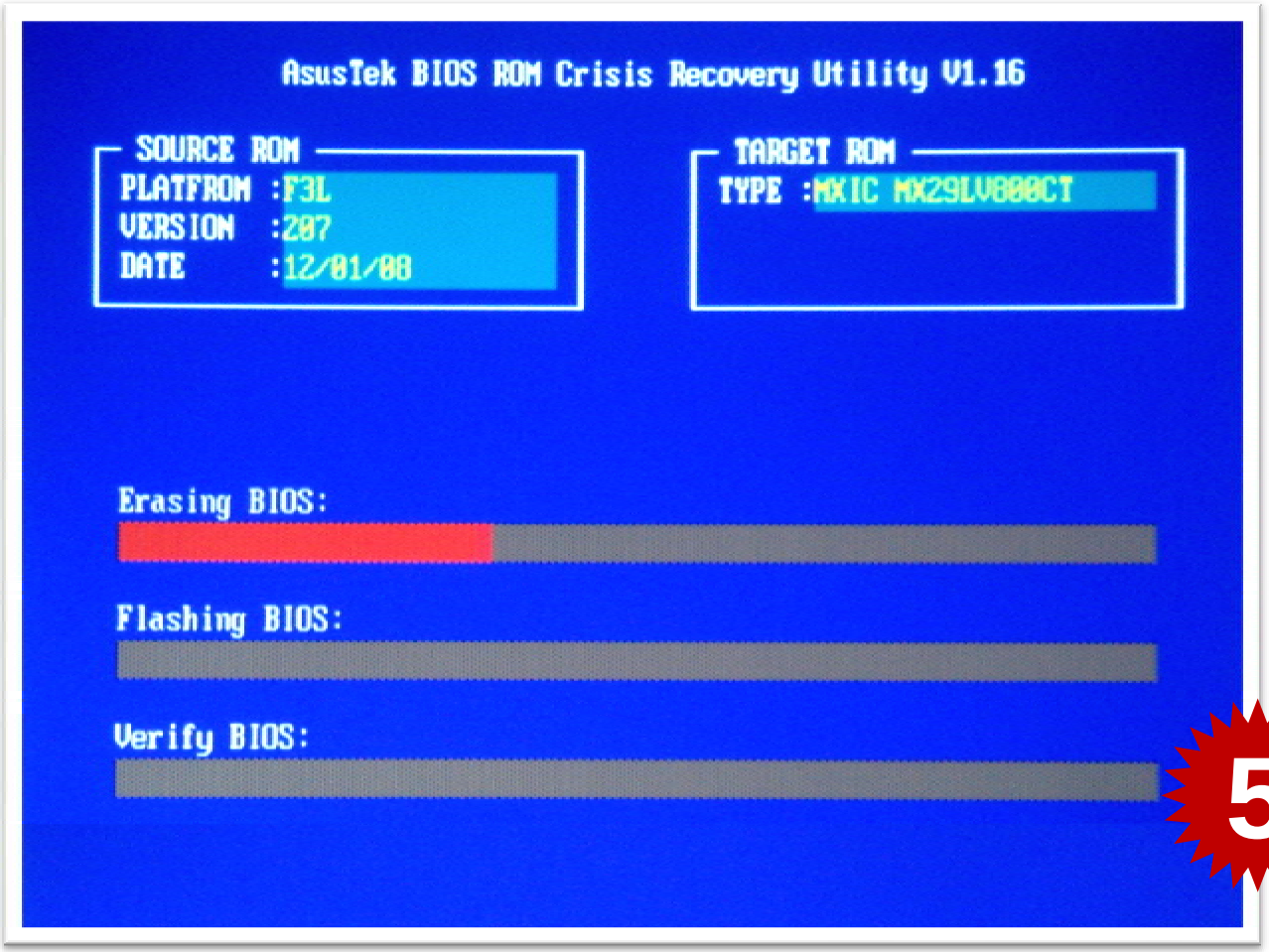
Flashing BIOS in Operating System

4. The system would shut down automatically and reboot again to enter the easy flash interface to start flashing the BIOS.



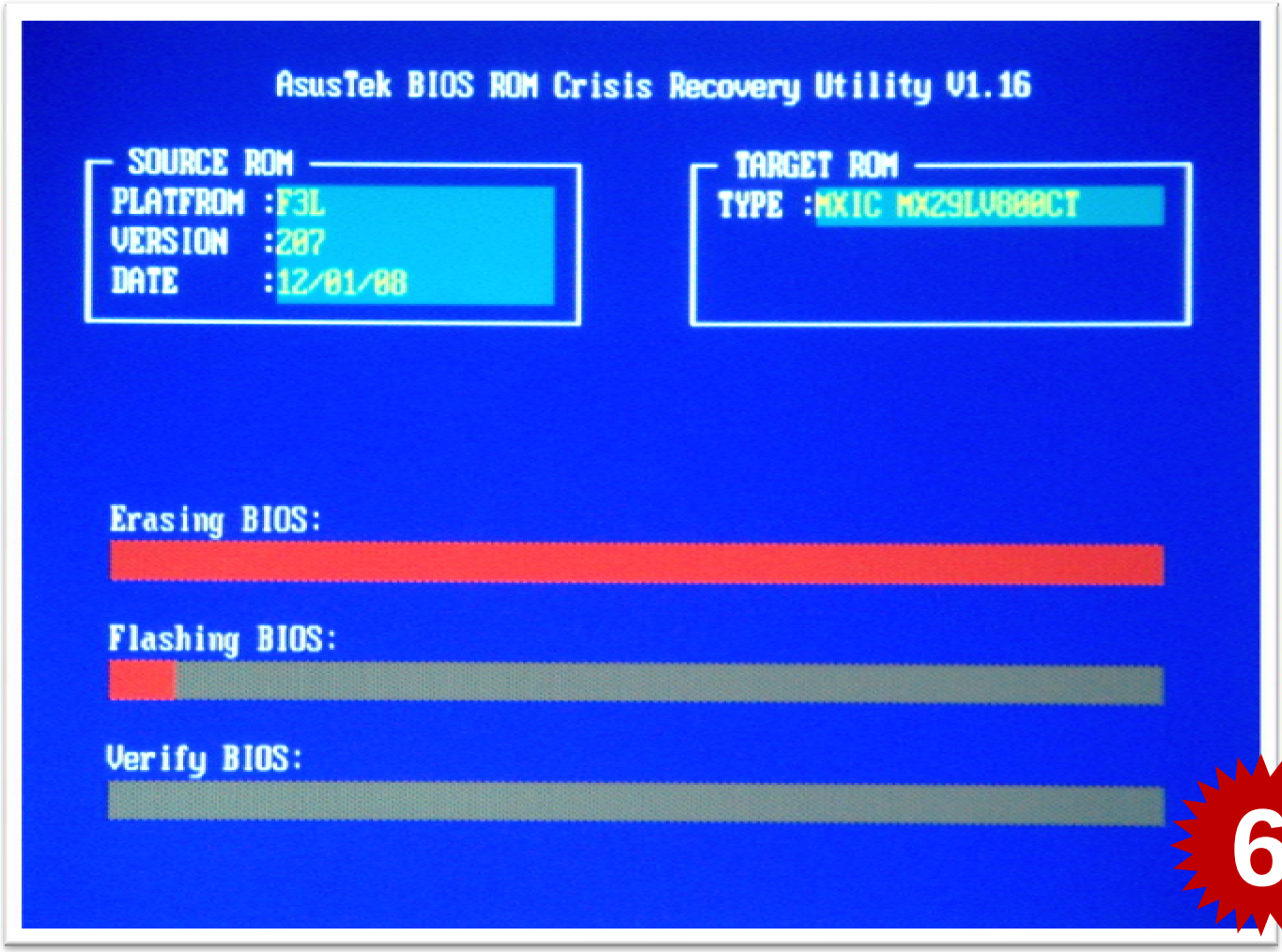
Flashing BIOS in Operating System

5. Erasing BIOS



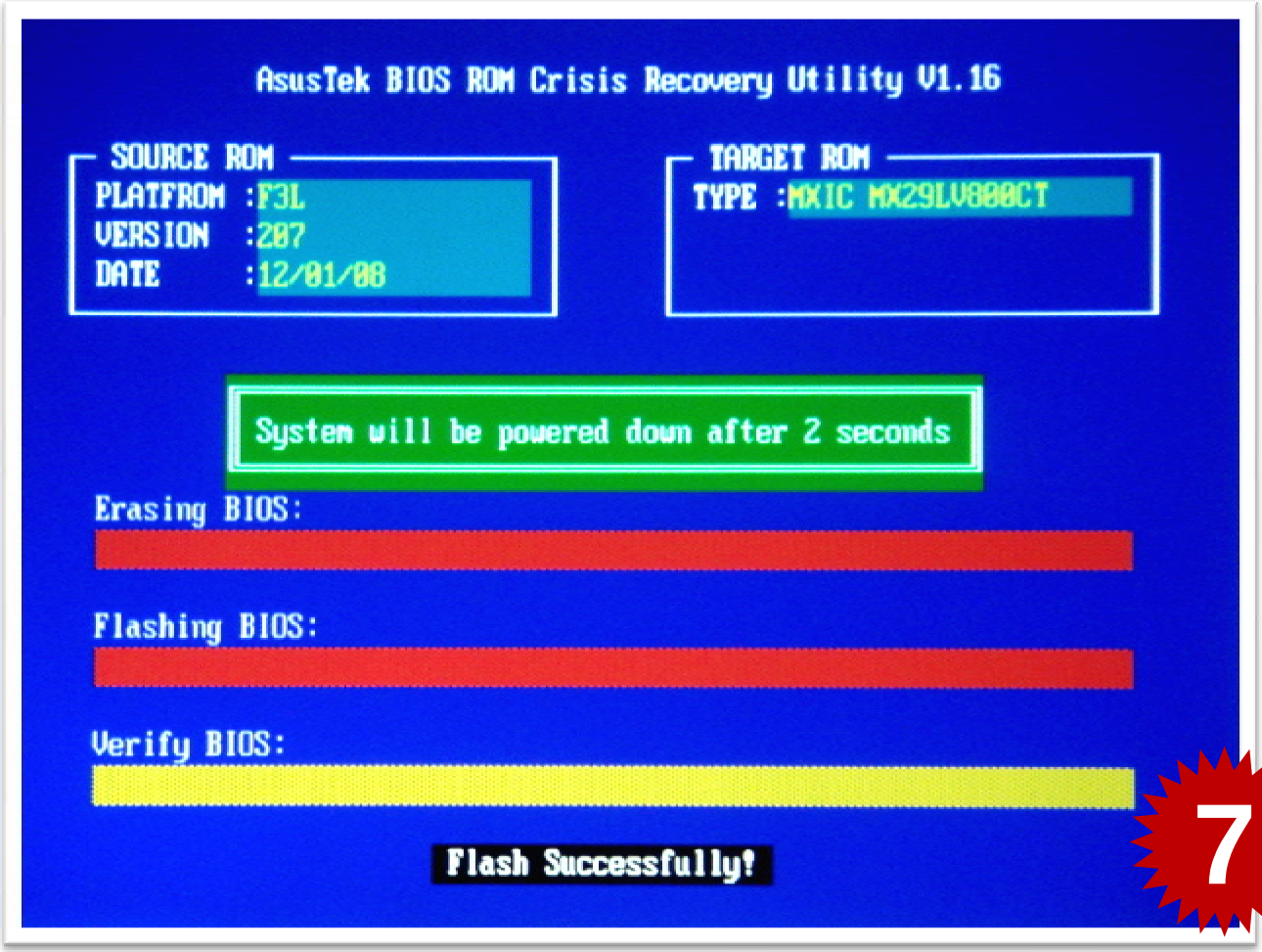
Flashing BIOS in Operating System

6. Flashing BIOS



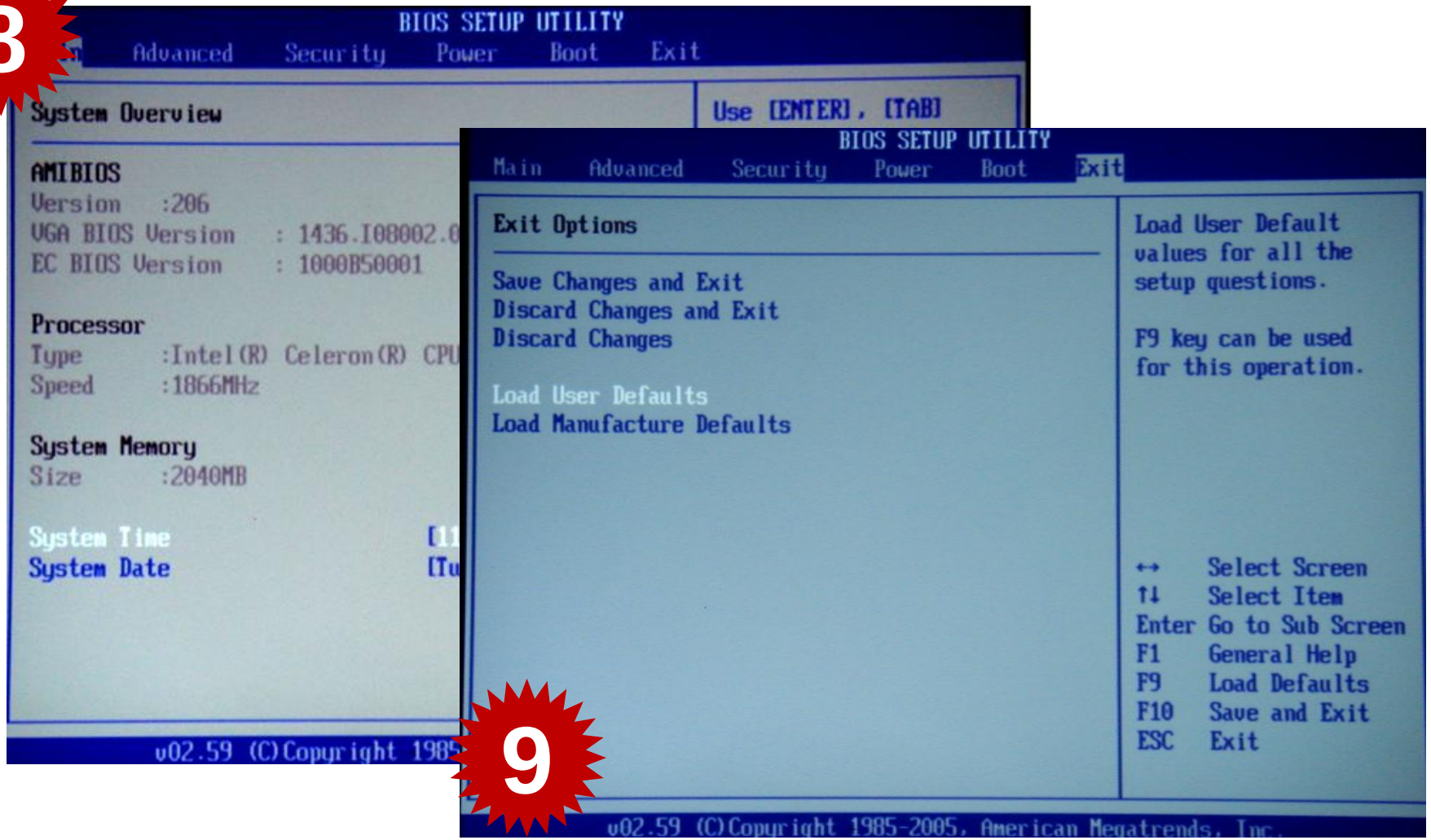
Flashing BIOS in Operating System

7. Verify BIOS. After flash successfully, the system would shut down automatically.



Flashing BIOS in Operating System

8. Please restart and enter the BIOS setup interface to Load User Defaults.



Warning

- The model is not matching
- The version is not the latest or older than the BIOS

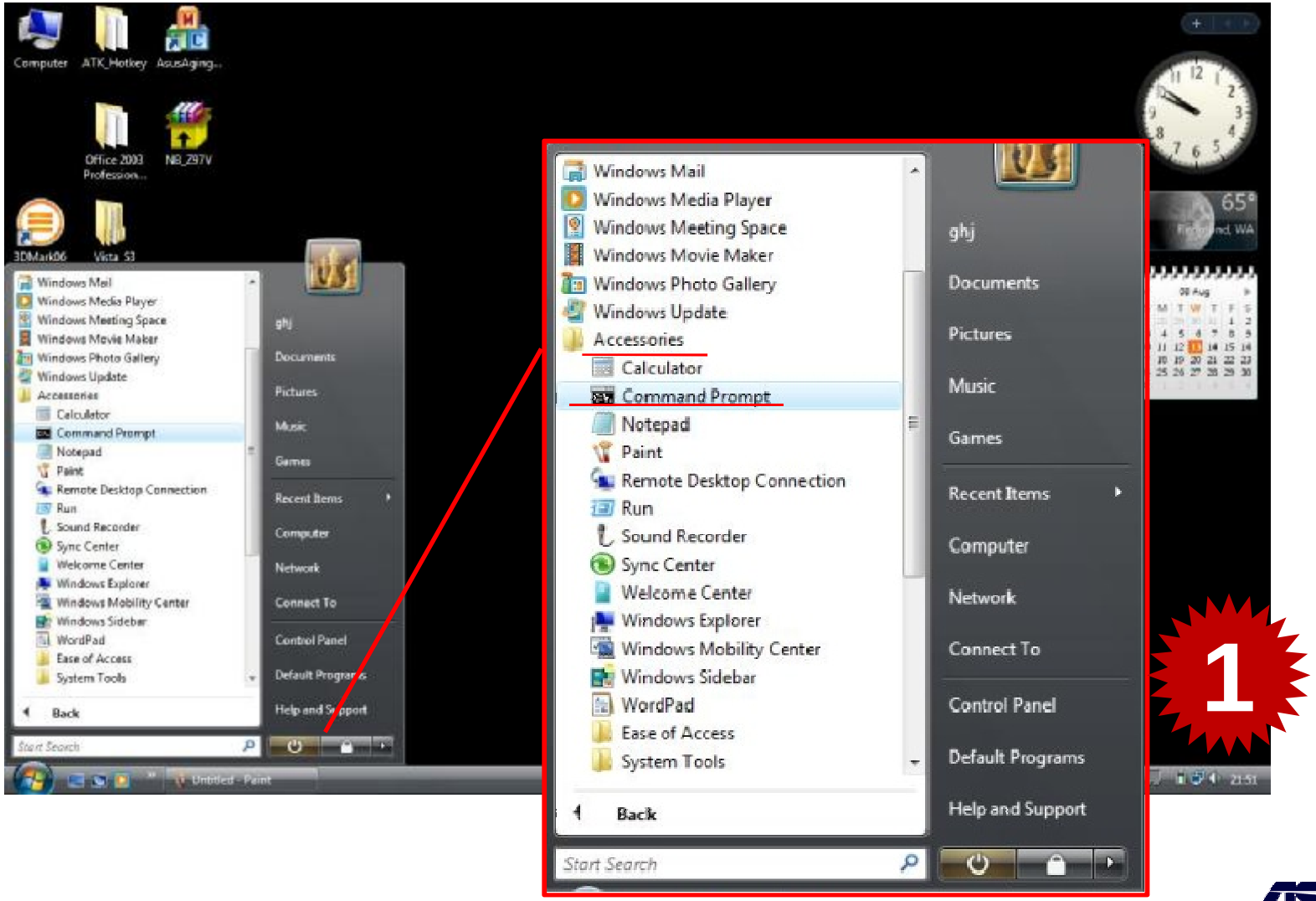
In these two situations, the BIOS could not be updated. The message would show and the “Flash” button would not be activable.

Downgrade BIOS

Description:
With the new version of the BIOS, some functions would be disabled. In this case, downgrade BIOS would be adapted. For the WINFLASH grogram could only upgrade BIOS, one command should be run before the downgrade.

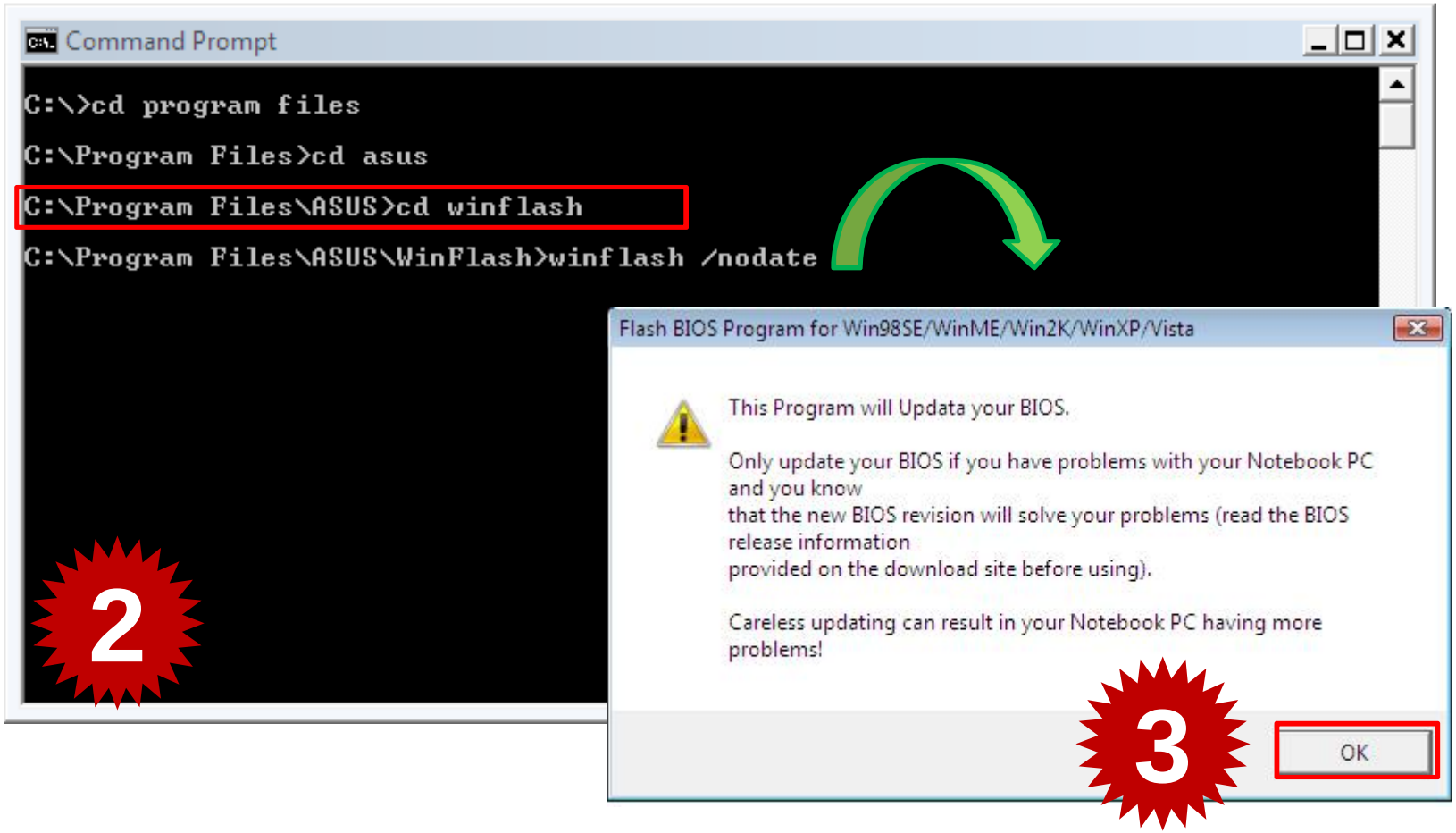
Downgrade BIOS

1. Enter into the DOS mode in OS



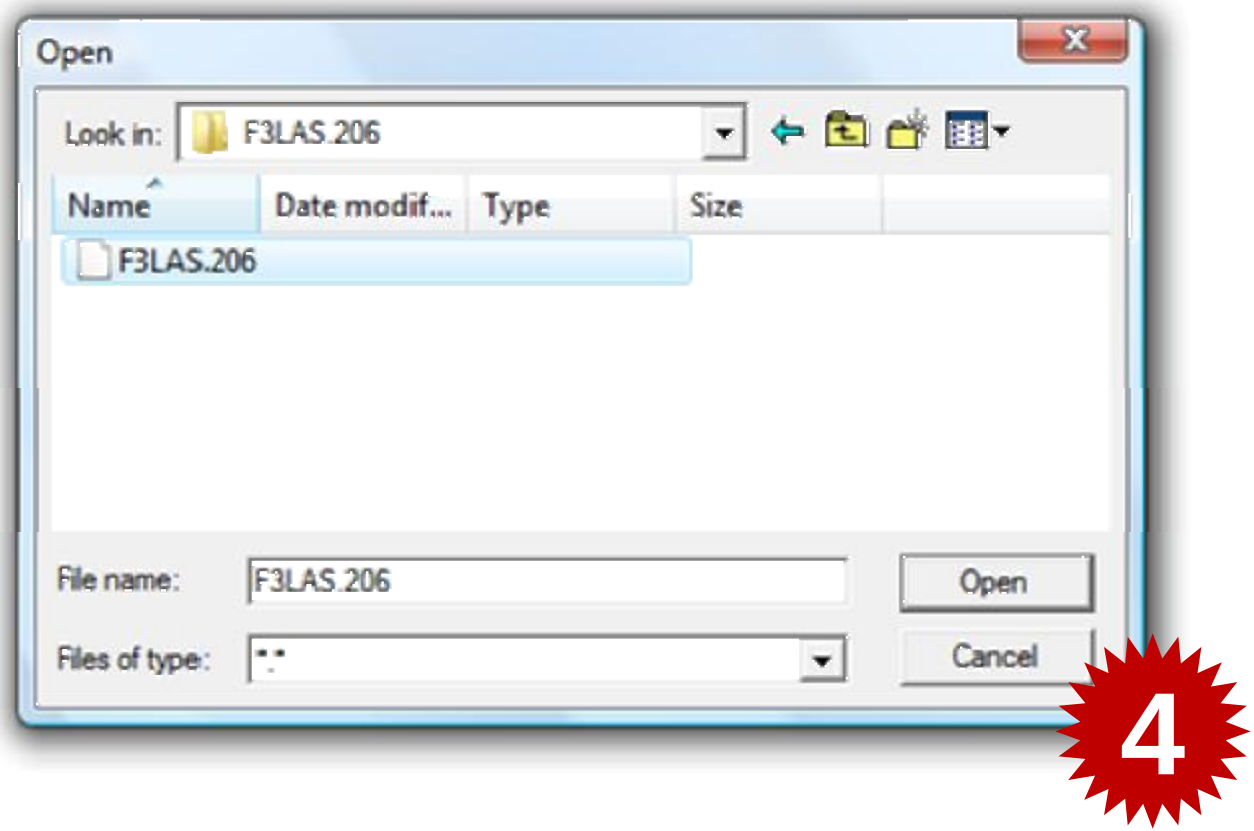
Downgrade BIOS

2. Run “winflash /nodate” in the DOS mode
   (The path is as below)



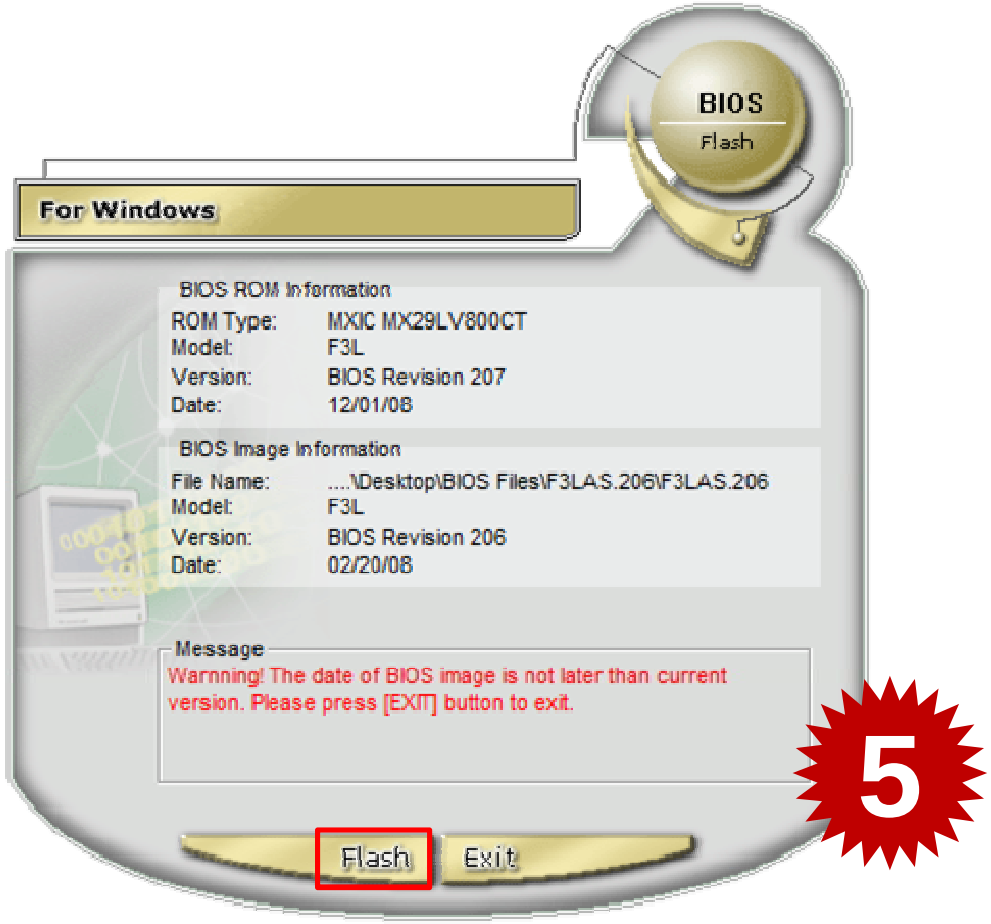
Downgrade BIOS

3. Choose the BIOS image file.



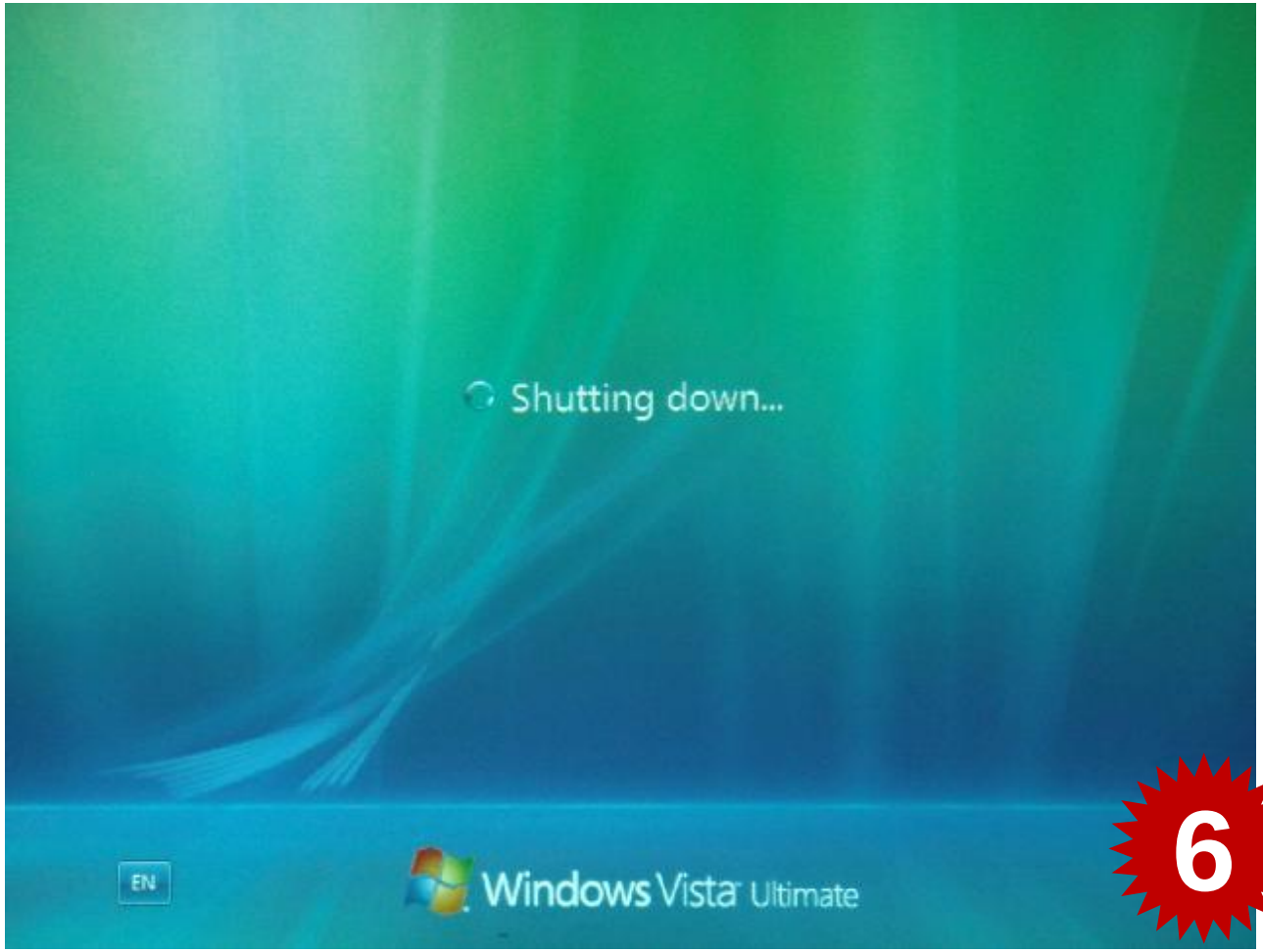
Downgrade BIOS

4. Start to Downgrade.



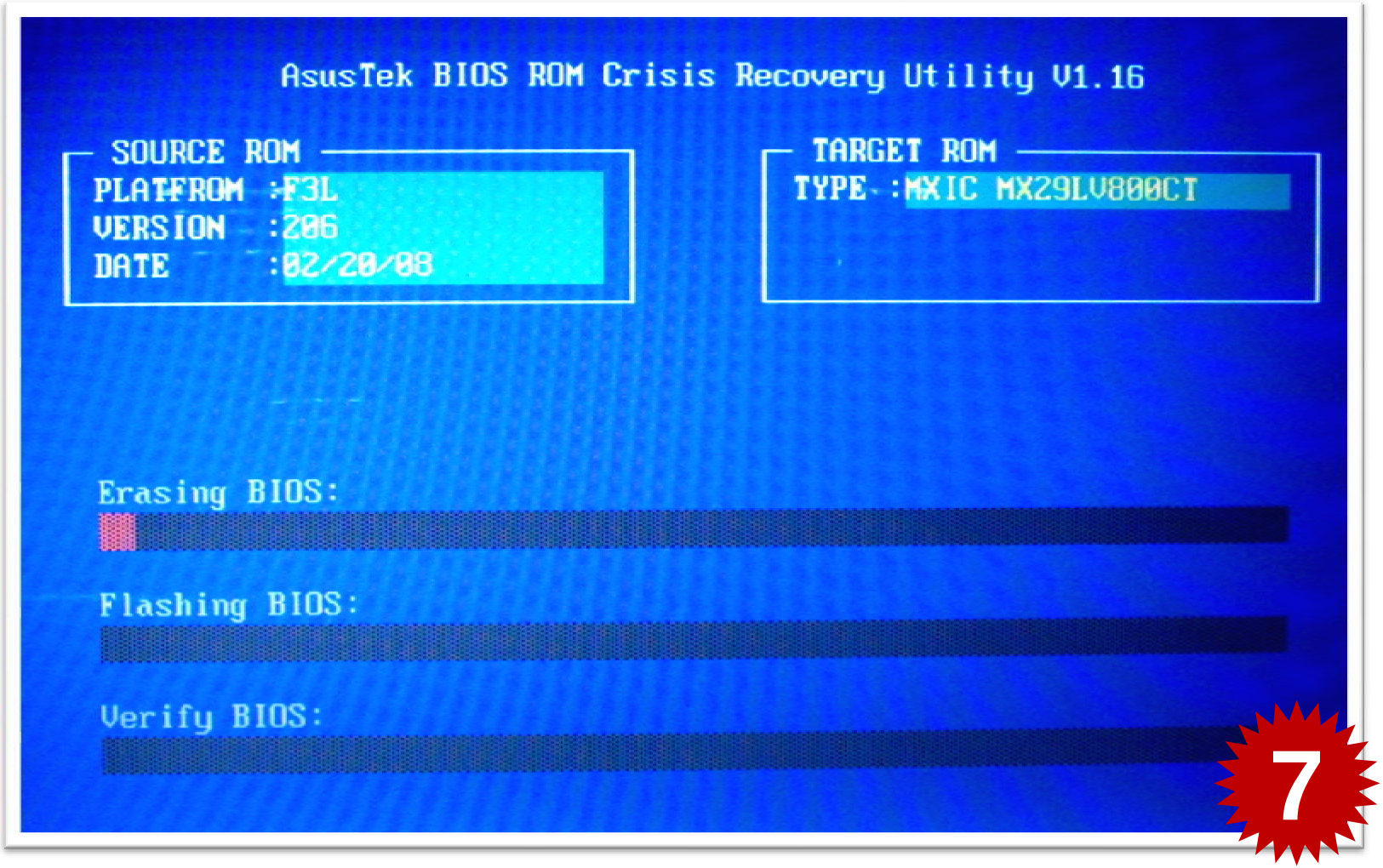
Downgrade BIOS

5. The system would shut down automatically and reboot again to enter the easy flash interface to start flash the BIOS.



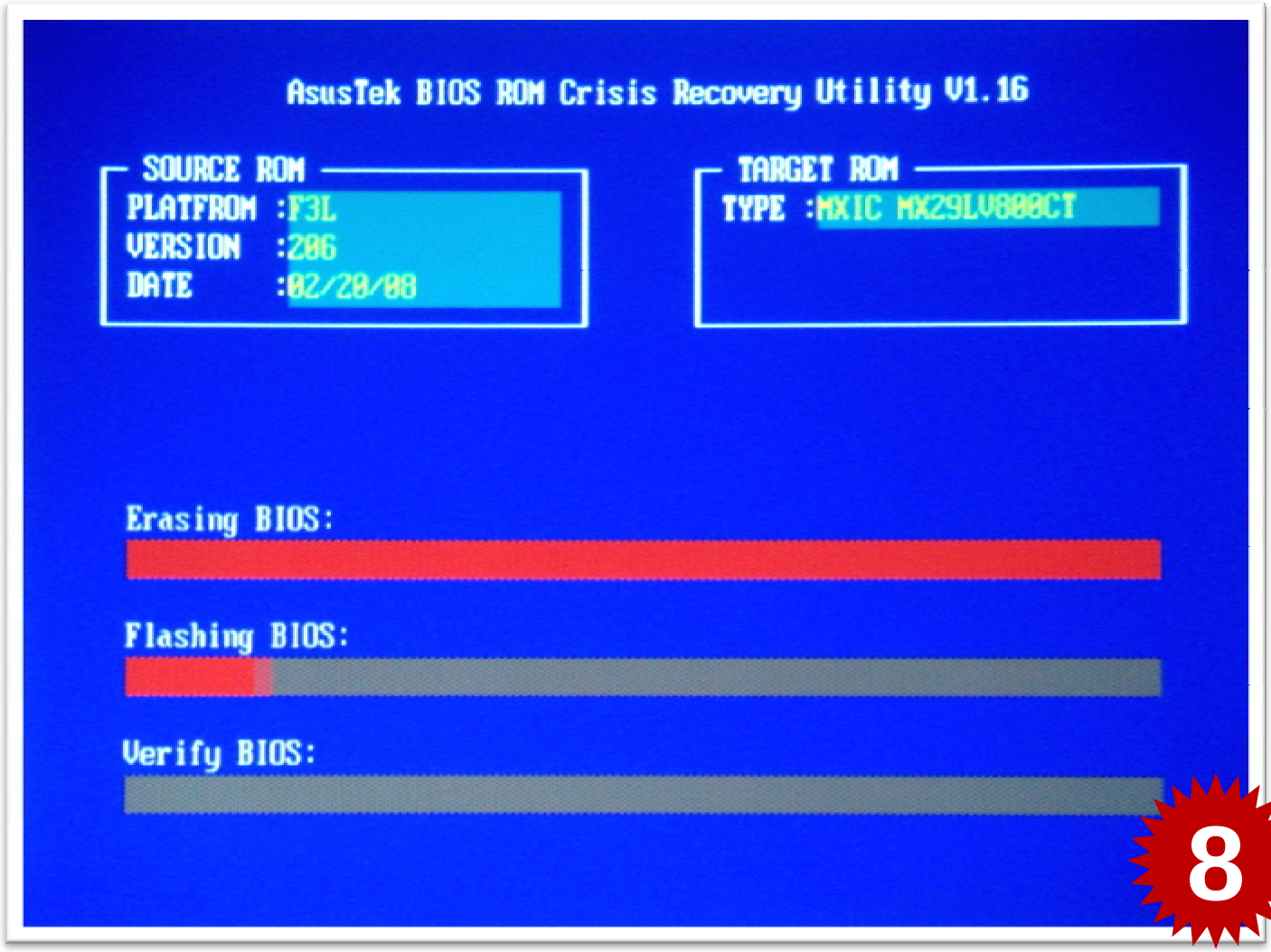
Downgrade BIOS

6. Erasing BIOS



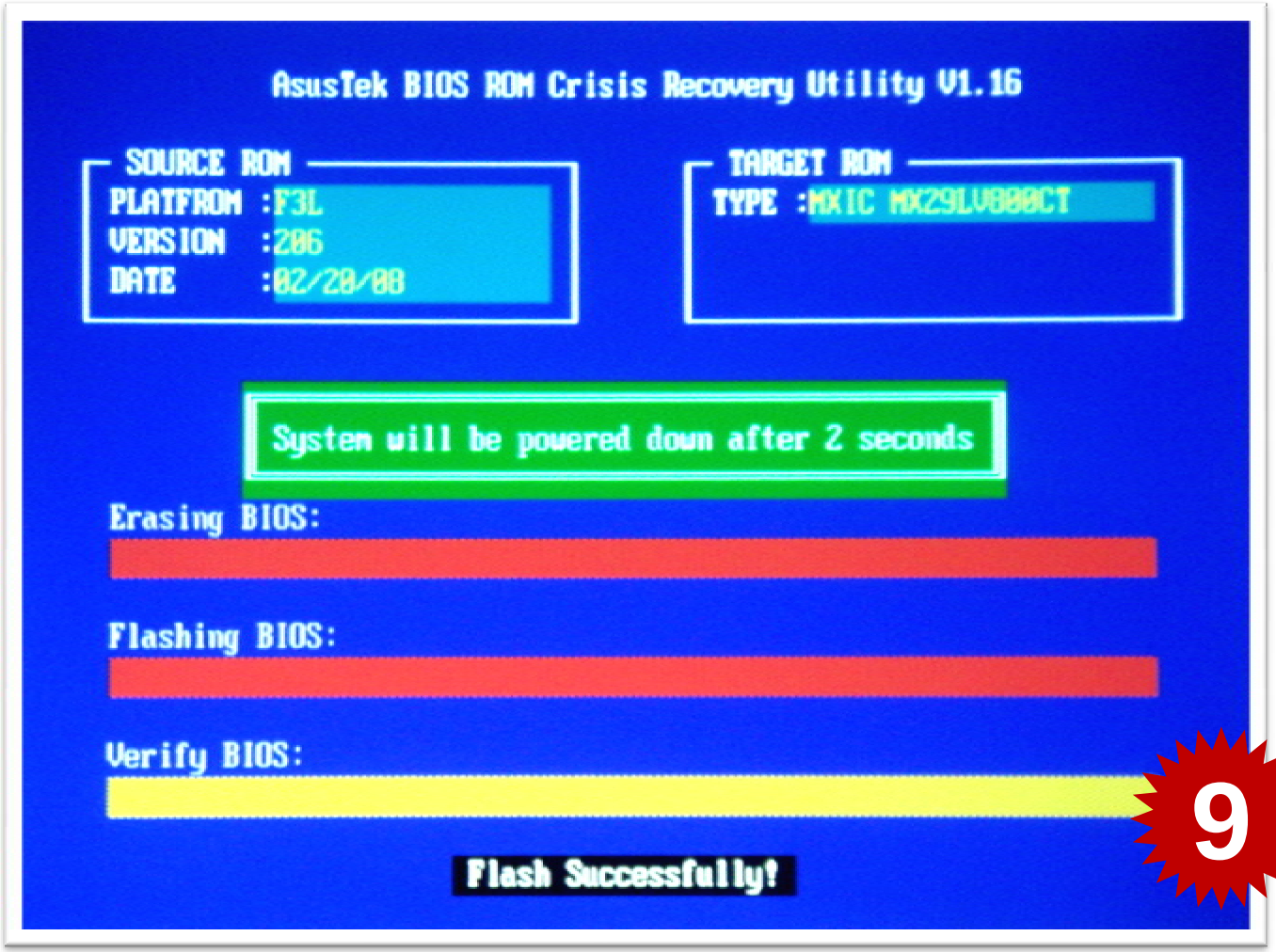
Downgrade BIOS

7. Flashing BIOS



Downgrade BIOS

8. Verify BIOS. After flash successfully, the system would shut down automatically.



Downgrade BIOS

9. Please restart and enter the BIOS setup interface to Load User Defaults.

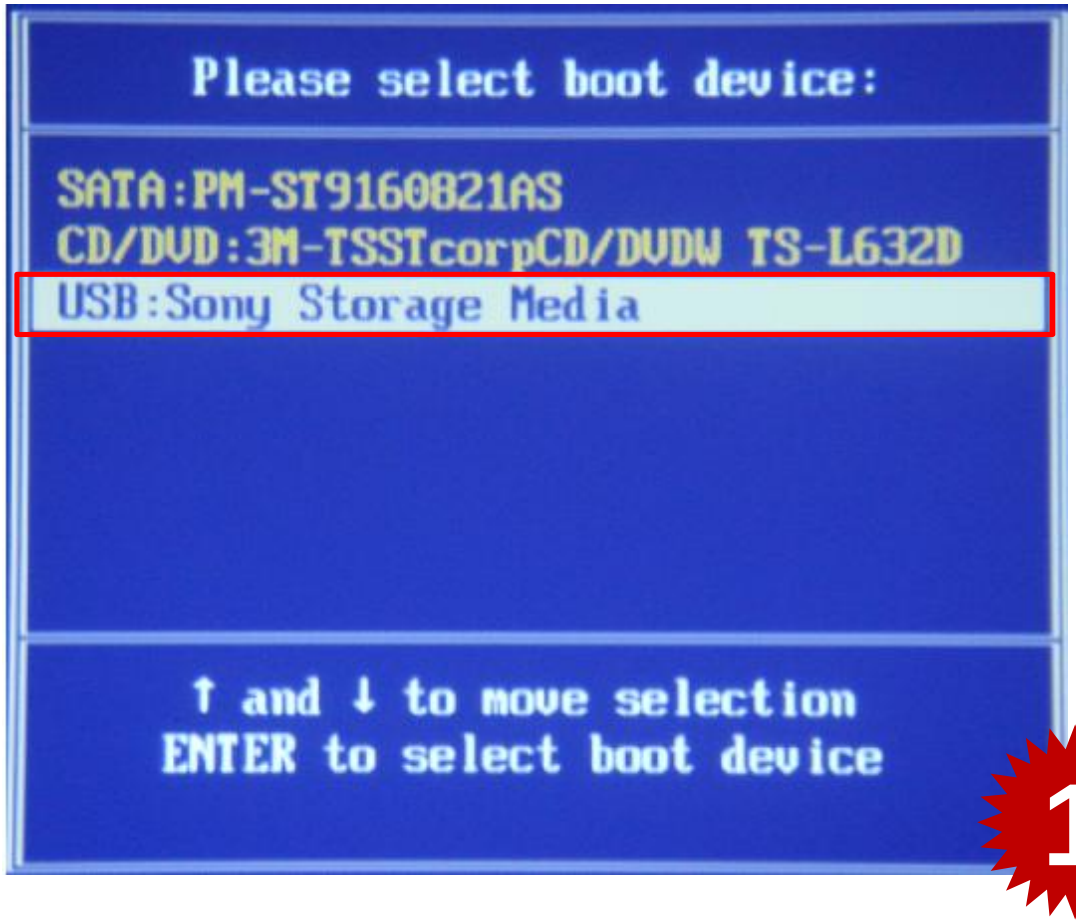
Flashing BIOS in FREEDOS

Preparation

- Download the BIOS image files from the SIP website (As it mentioned in the flashing BIOS in OS)
- Prepare a USB DOS booting flash disk with the “AFLASH.EXE” program and the BIOS image files in.

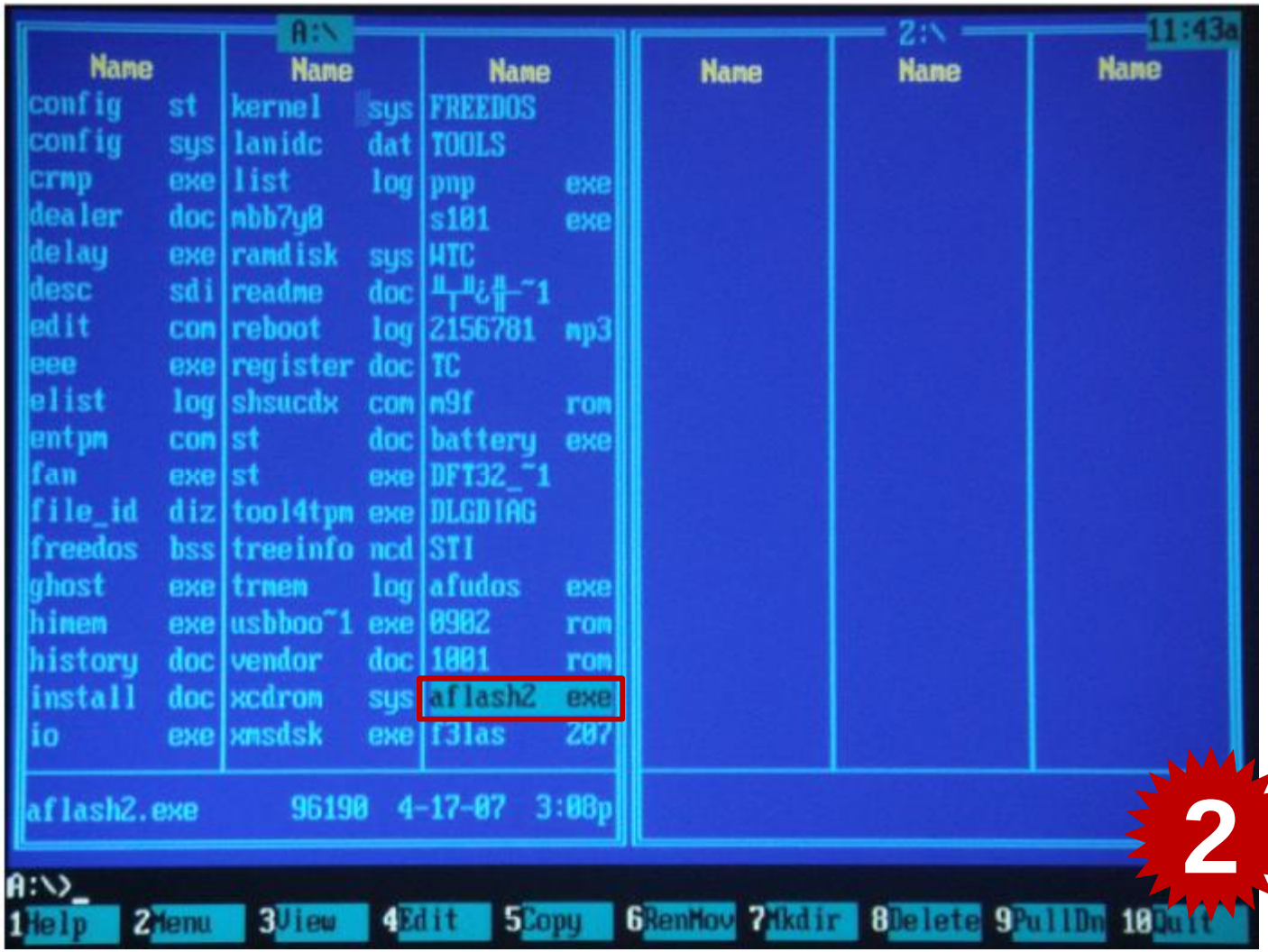
Flashing BIOS in FREEDOS

1. Booting from the USB to enter into the FREEDOS



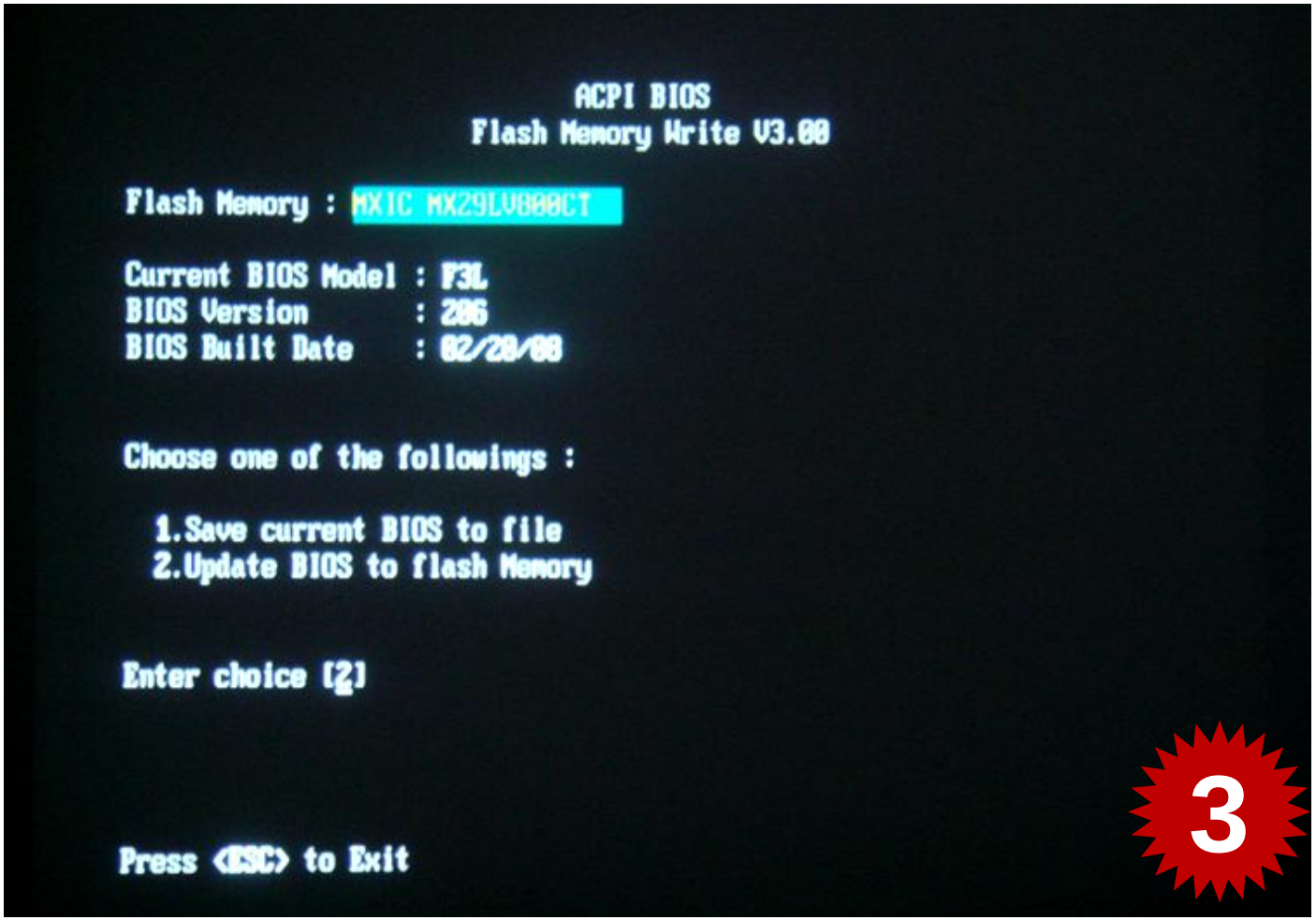
Flashing BIOS in FREEDOS

2. Select aflash2.exe to run updating BIOS grogram



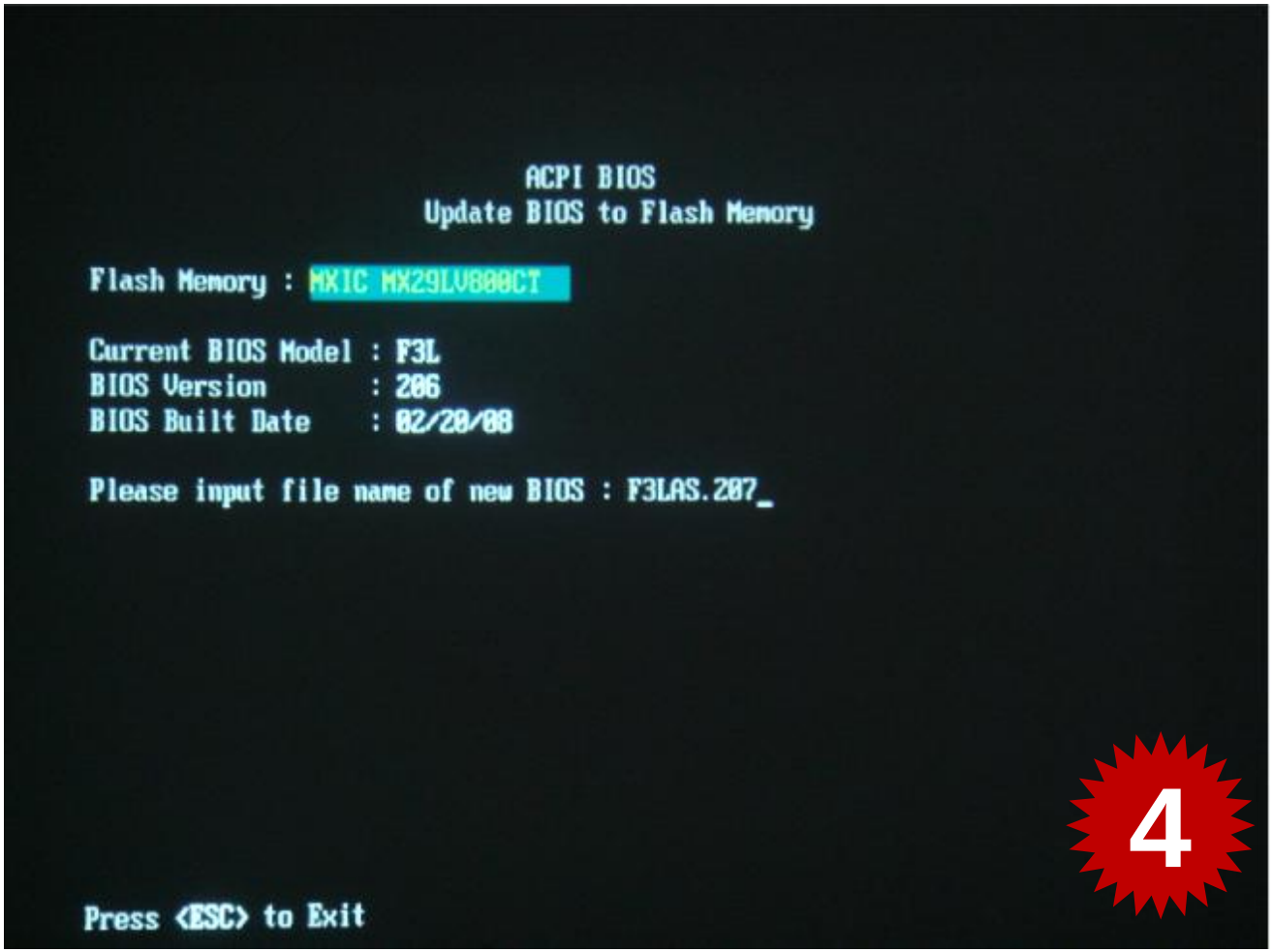
Flashing BIOS in FREEDOS

3. Select <2.update BIOS to new version>



Flashing BIOS in FREEDOS

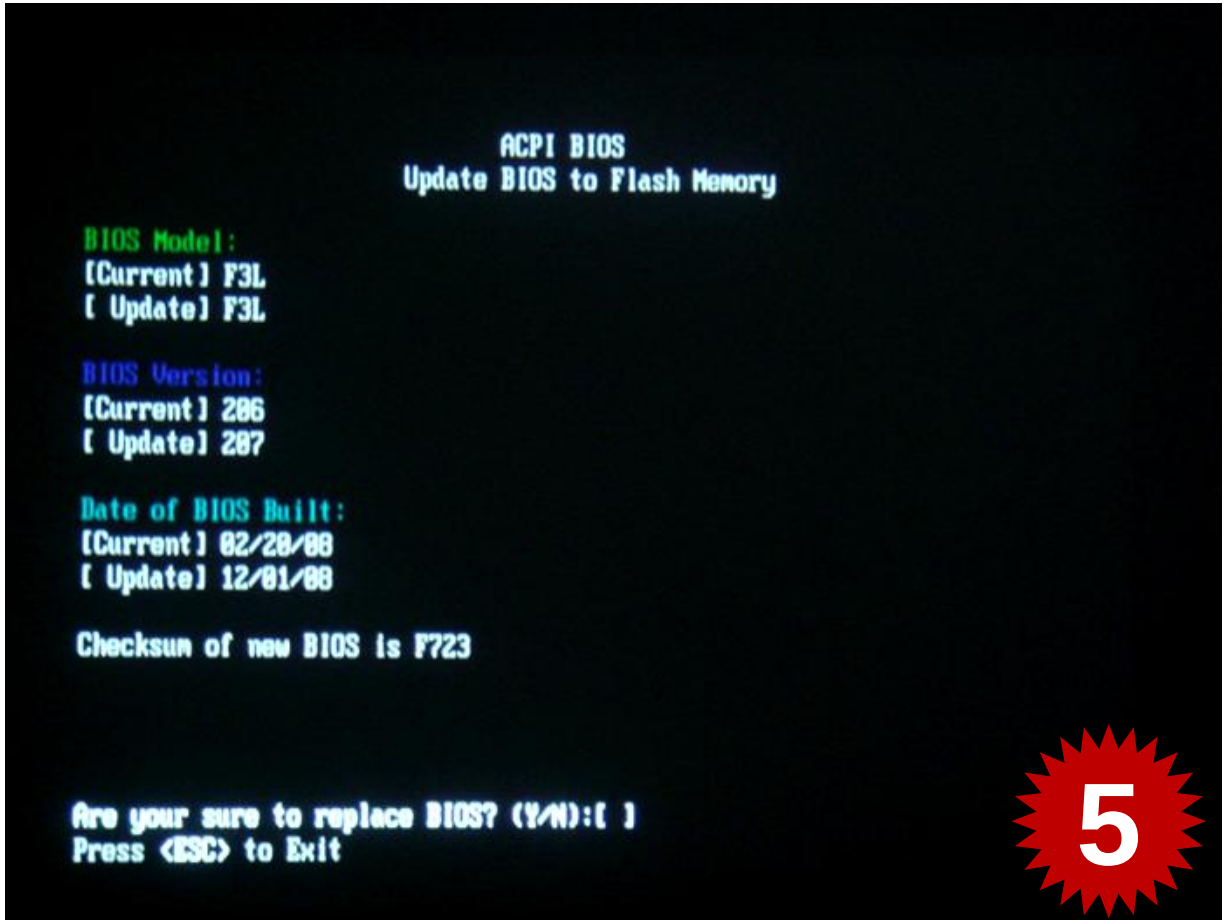
4. Input file name of new BIOS



Flashing BIOS in FREEDOS

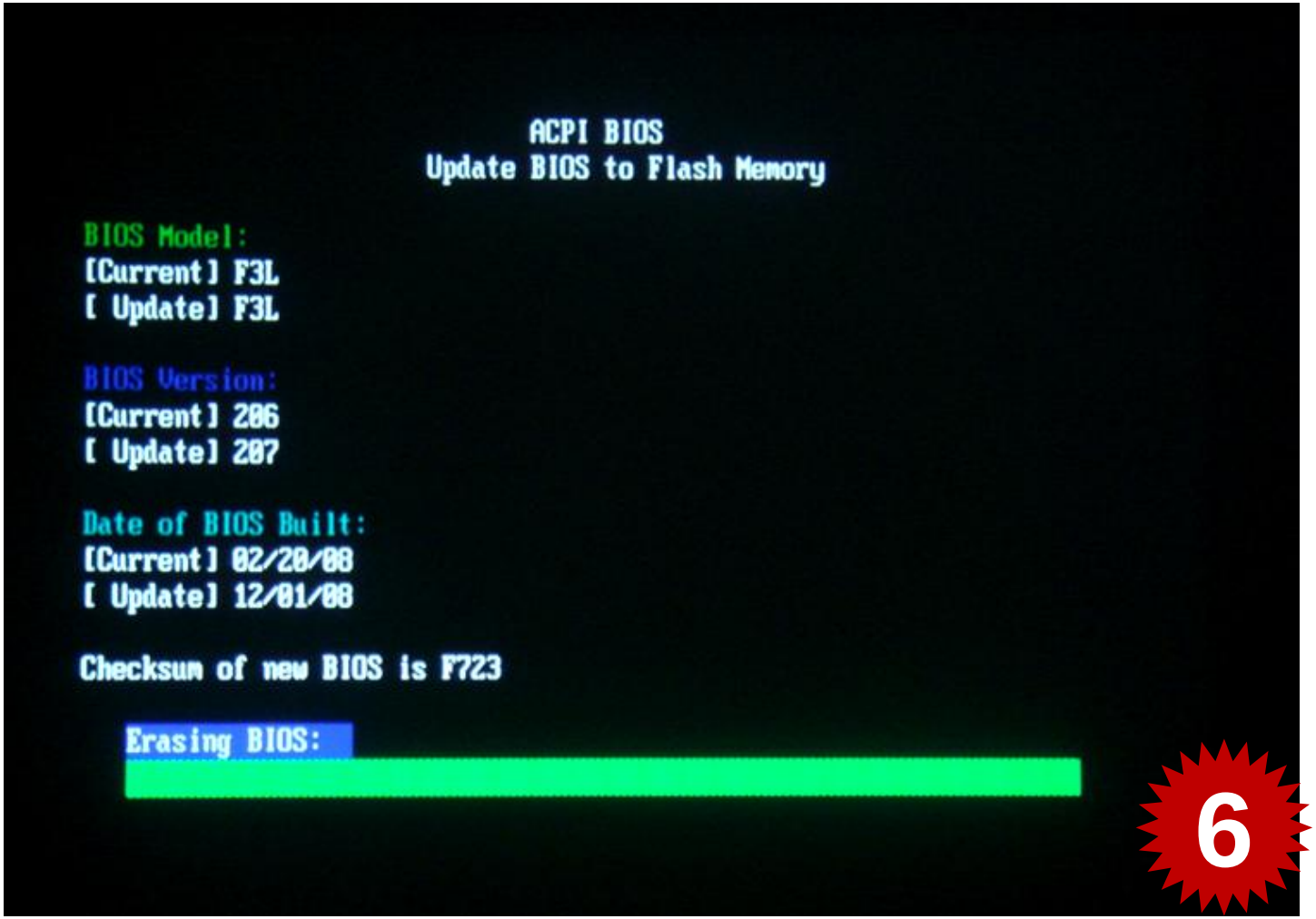
5. Confirm the new BIOS name and make sure to start flashing

In this stage, please carefully check the model and version is correct then enter “Y” to continue, otherwise the system will flash a wrong BIOS which will cause the problem of no boot.



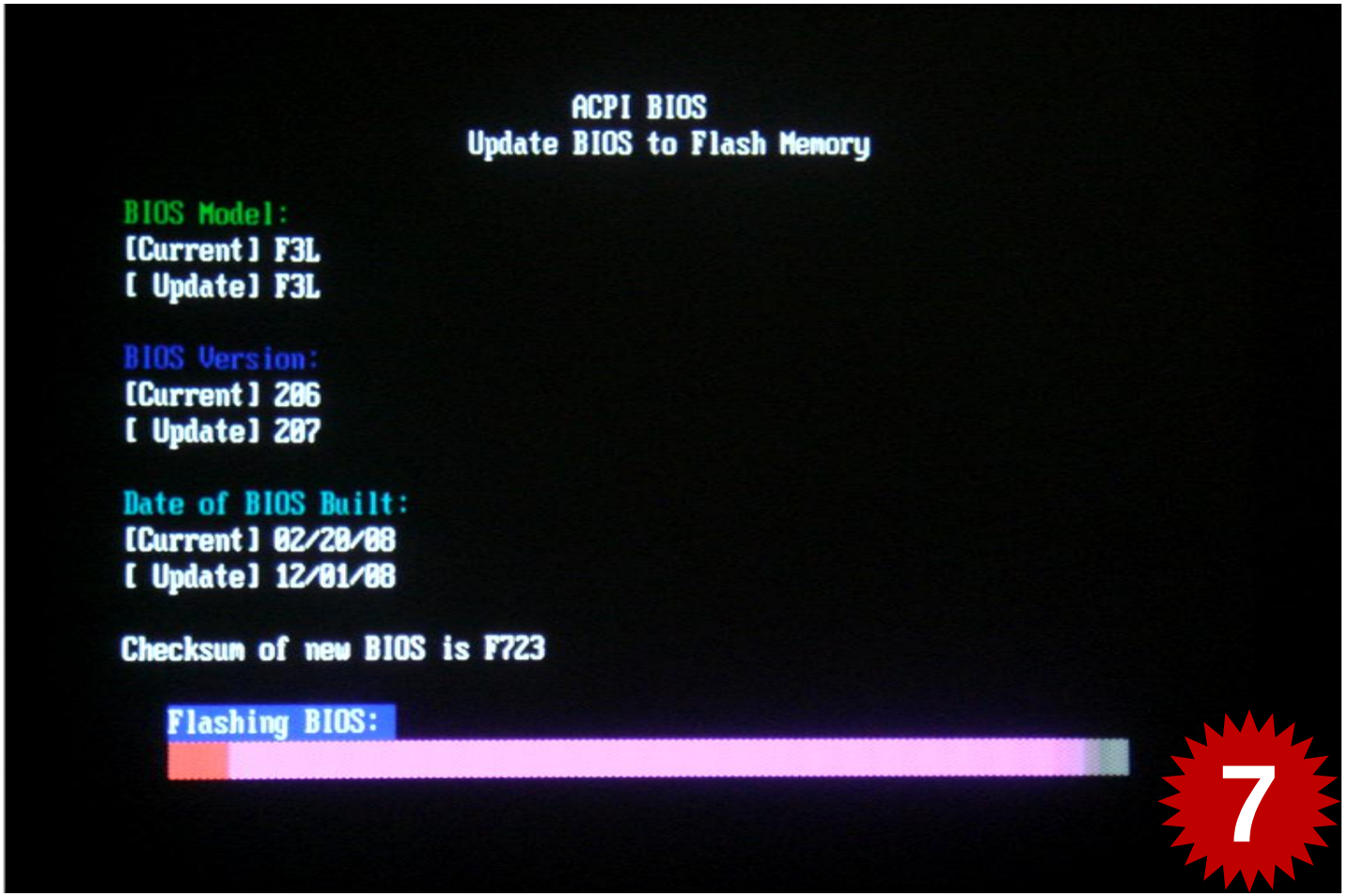
Flashing BIOS in FREEDOS

6. Erasing BIOS



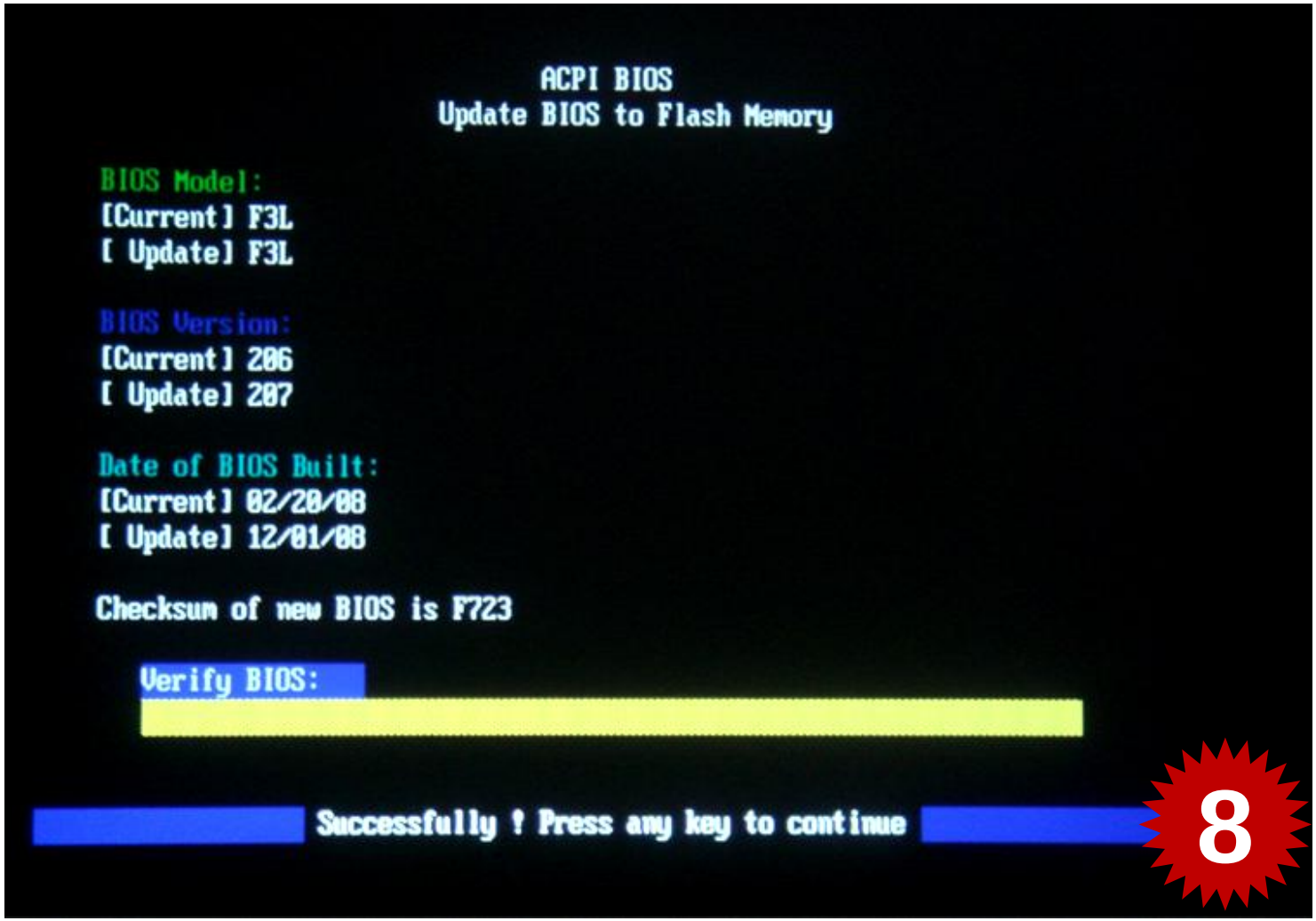
Flashing BIOS in FREEDOS

7. Flashing BIOS



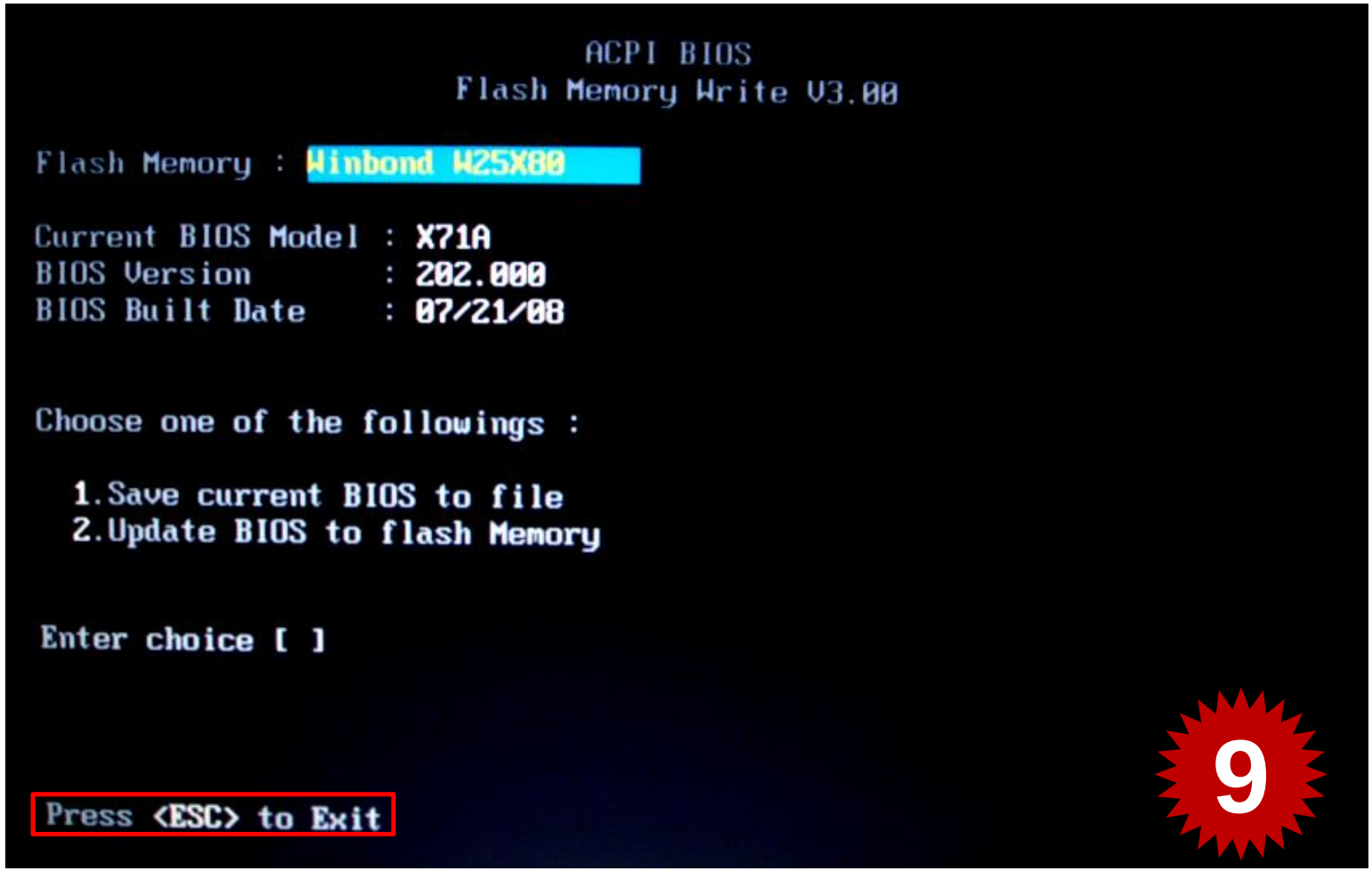
Flashing BIOS in FREEDOS

8. Verify BIOS



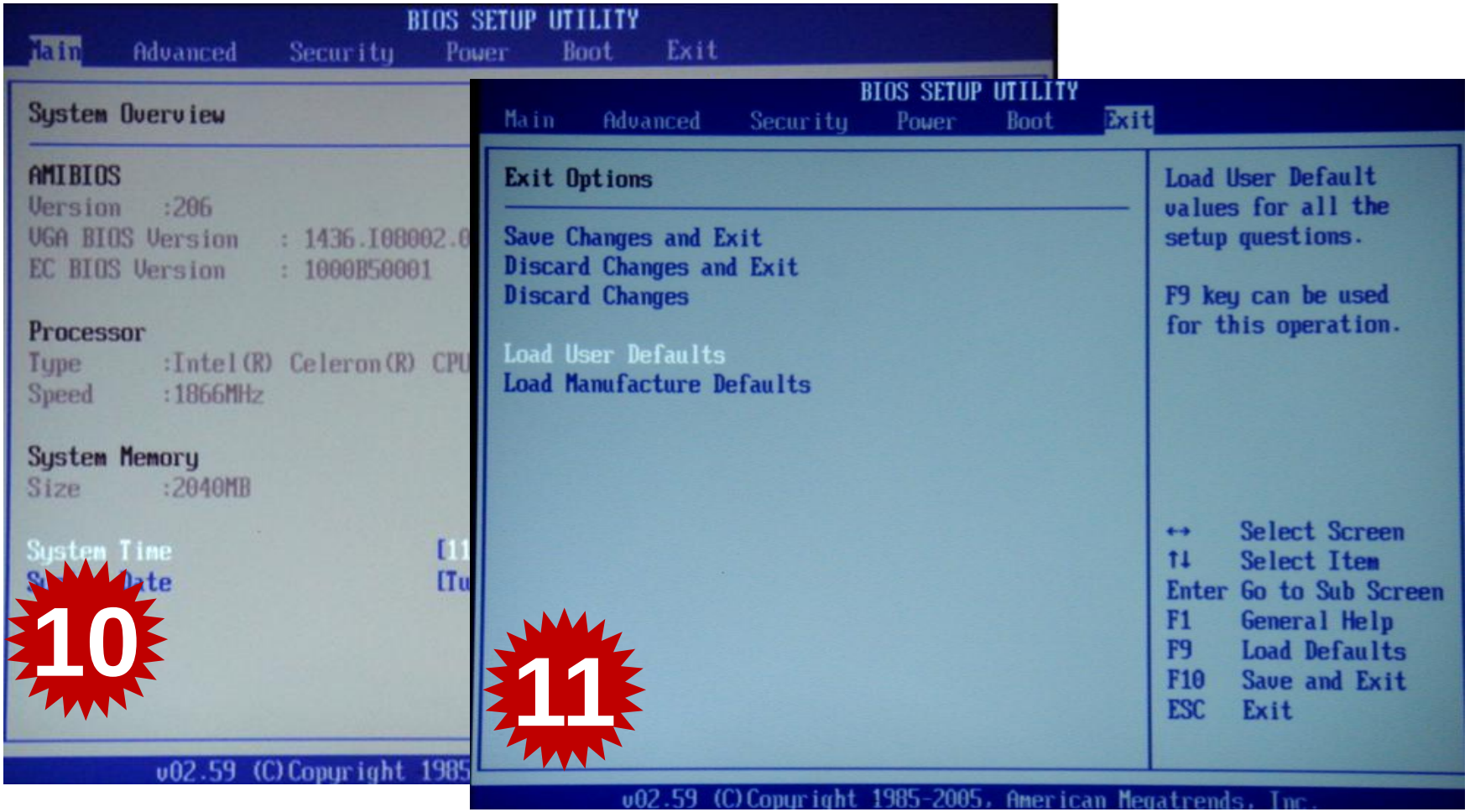
Flashing BIOS in FREEDOS

9. Complete Flashing and EXIT



Flashing BIOS in FREEDOS

10. Restart the PC and enter into the BIOS SETUP UTILITY to check the BIOS info.



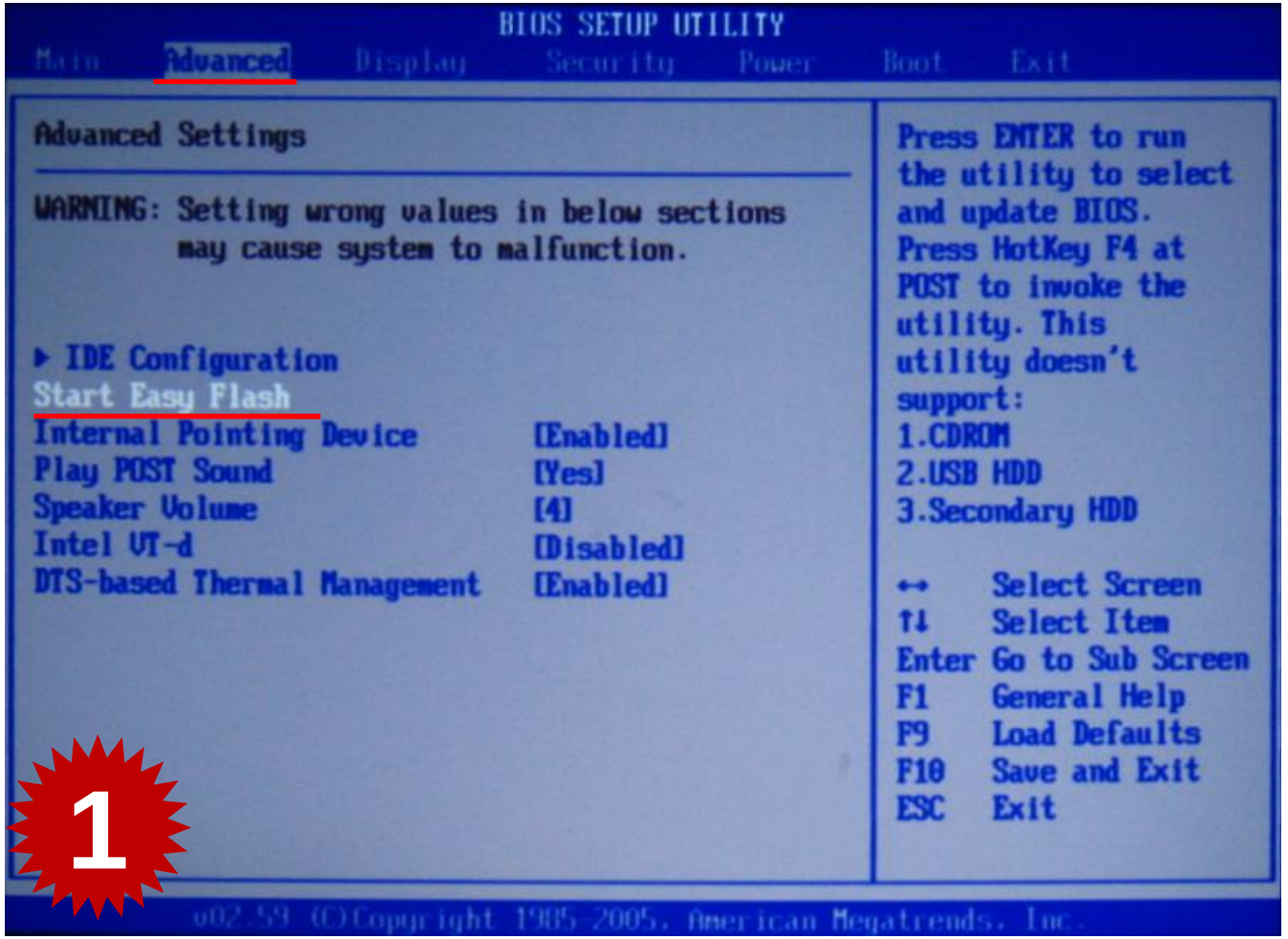
Flashing BIOS
in BIOS SETUP UTILITY

Description:

For the computer with the Napa platform and the latter one, BIOS updating could be completed directly in the BIOS setup interface.

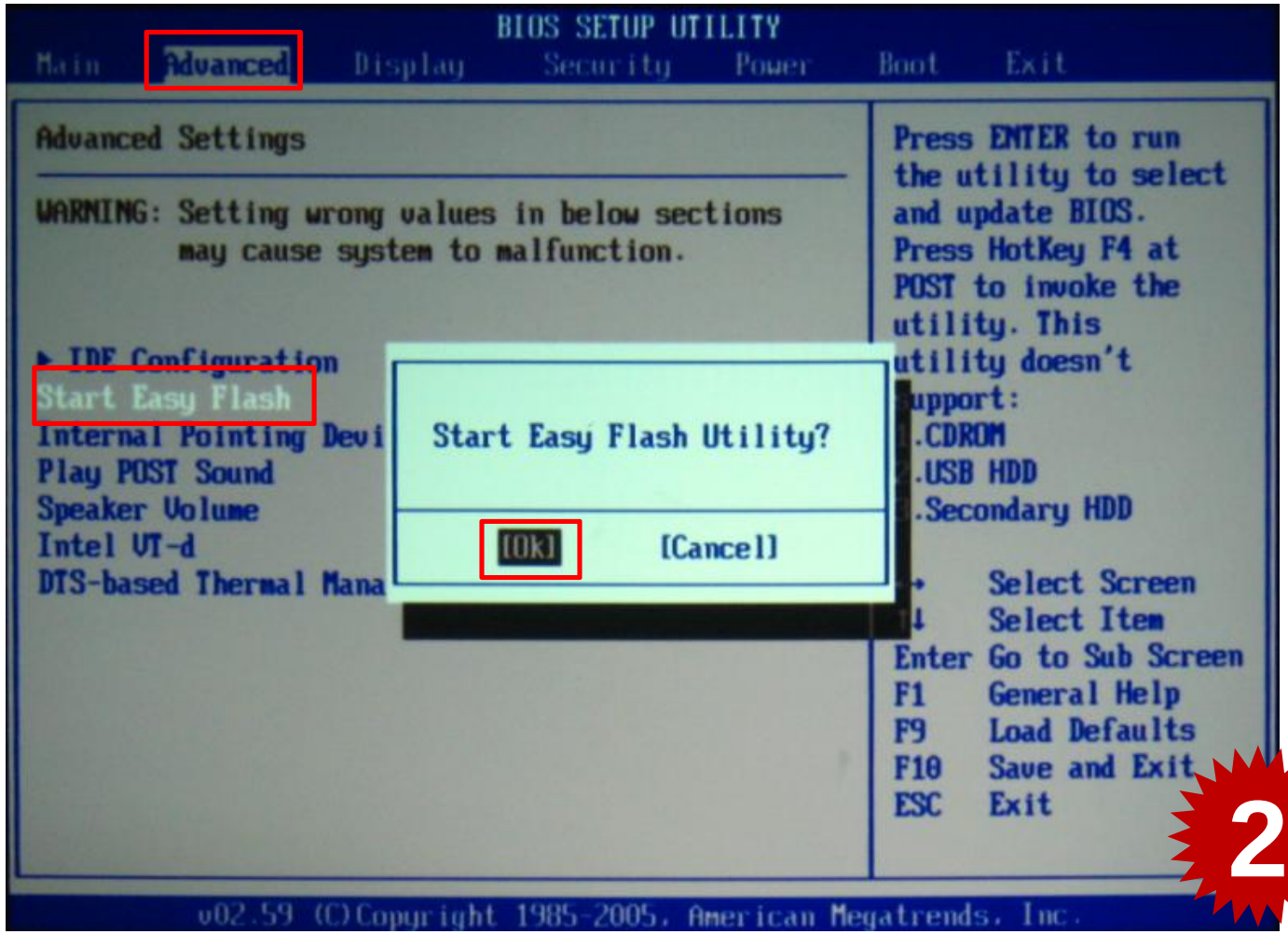
Flashing BIOS in BIOS SET UTILITY

1. Press F2 to enter the BIOS SETUP Interface to start the flashing.
The procedure is as below:



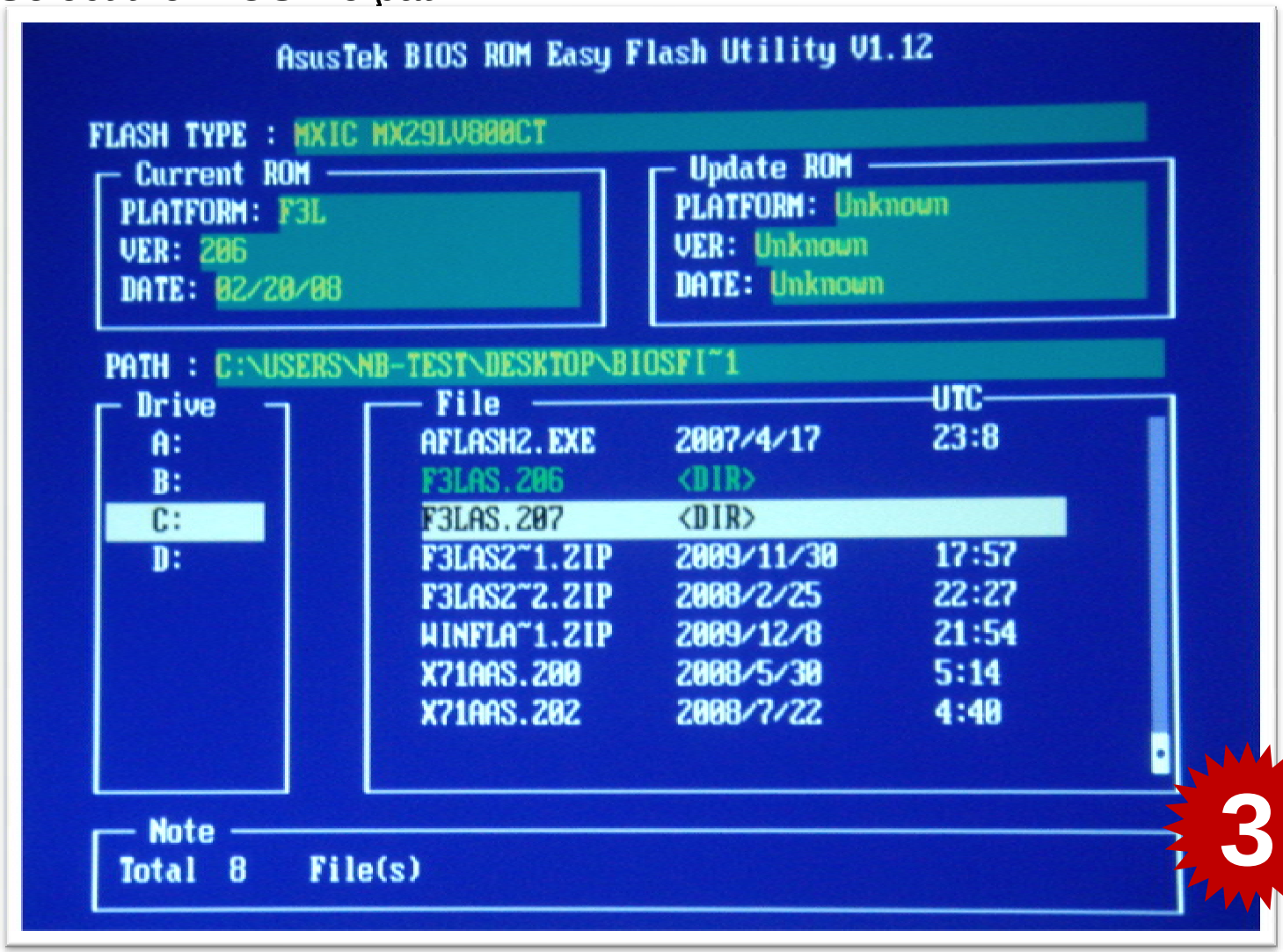
Flashing BIOS in BIOS SET UTILITY

2. Start to Easy Flash



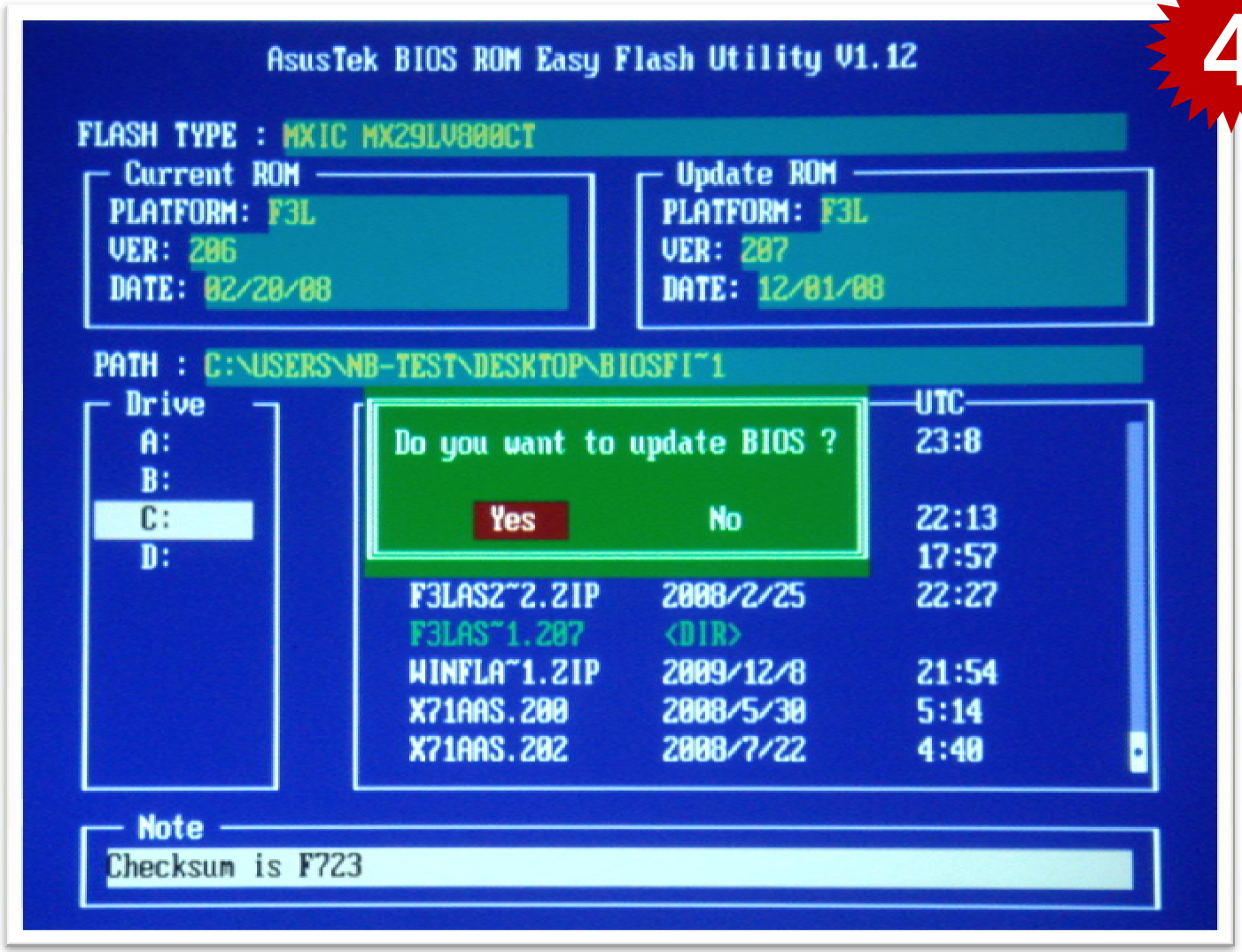
Flashing BIOS in BIOS SET UTILITY

3. Select the BIOS file path



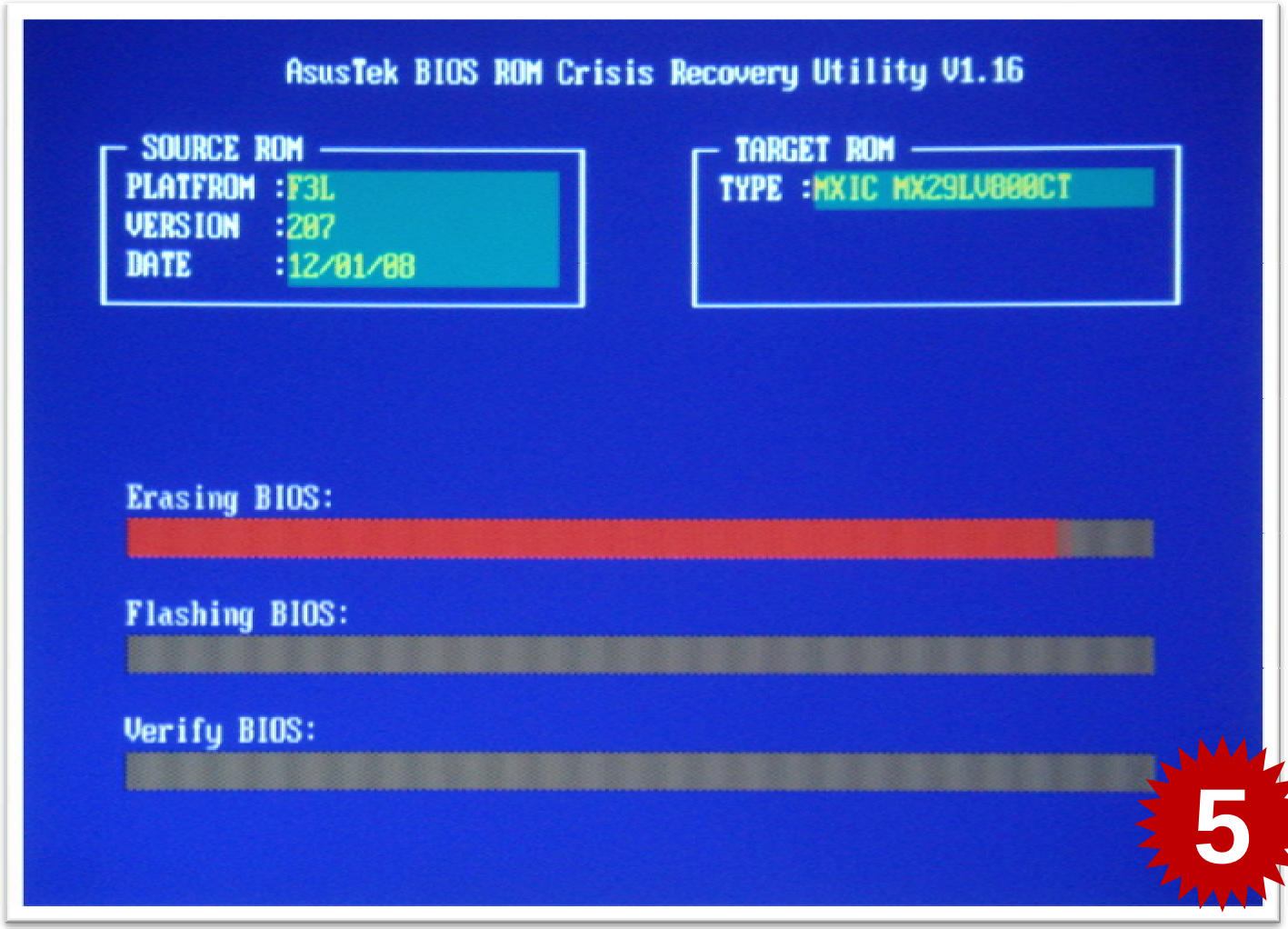
Flashing BIOS in BIOS SET UTILITY

3. Confirm to update BIOS



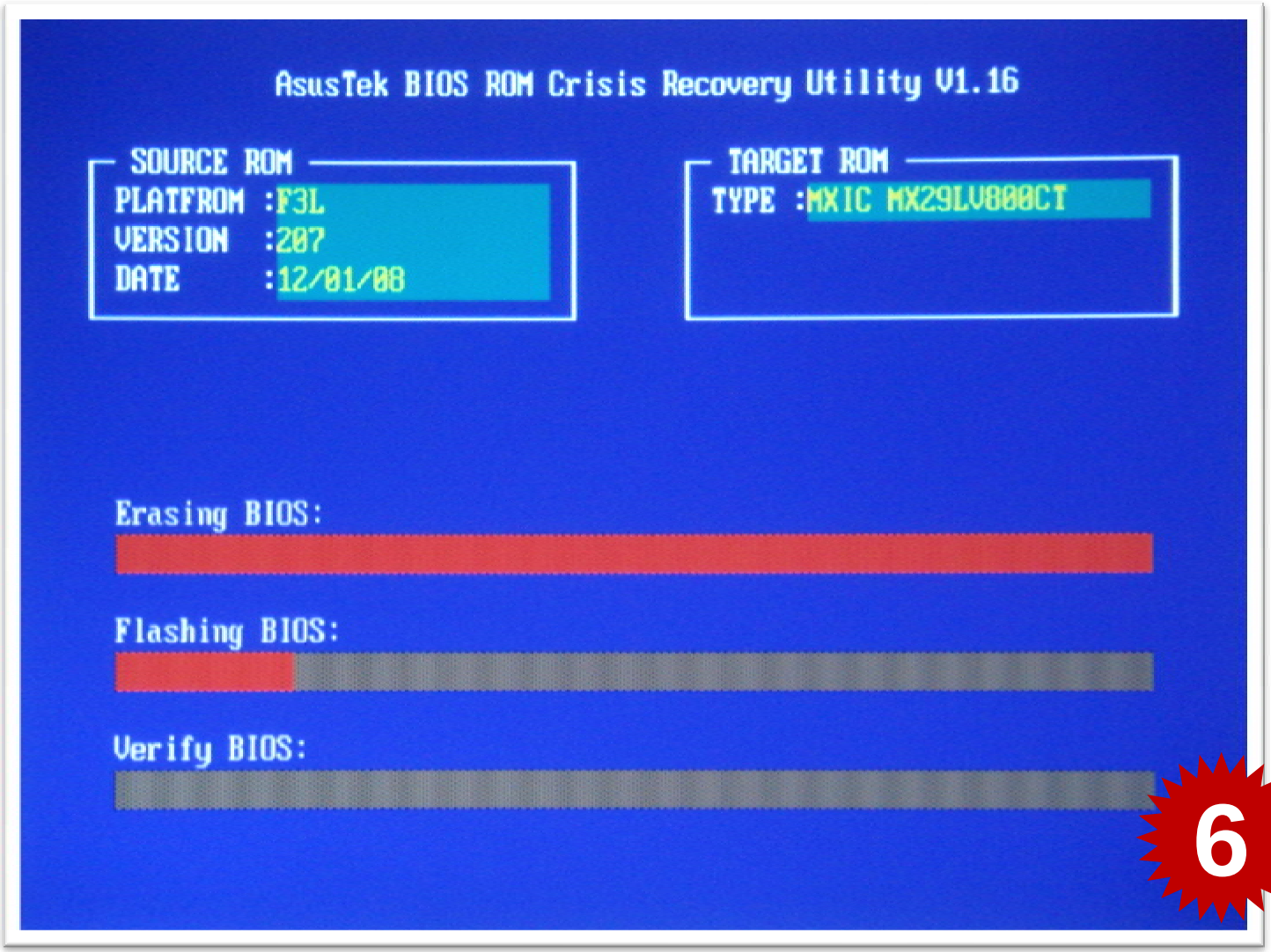
Flashing BIOS in BIOS SET UTILITY

4. Erasing BIOS



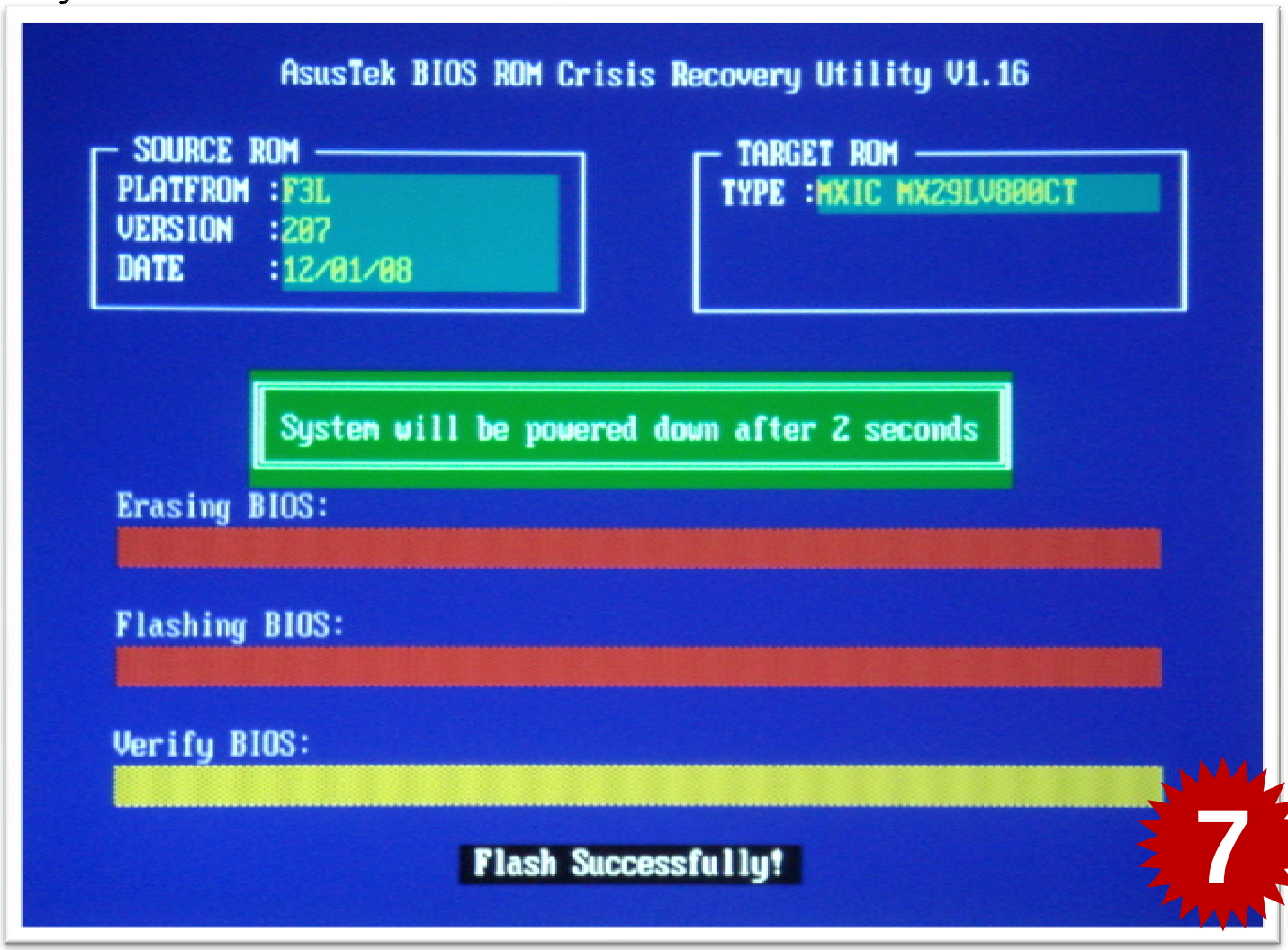
Flashing BIOS in BIOS SET UTILITY

5. Flashing BIOS



Flashing BIOS in BIOS SET UTILITY

6. Verify BIOS



Flashing BIOS in BIOS SET UTILITY

7. Restart the PC and enter into the BIOS SETUP UTILITY to check the BIOS info.

Flashing BIOS by Jig Board

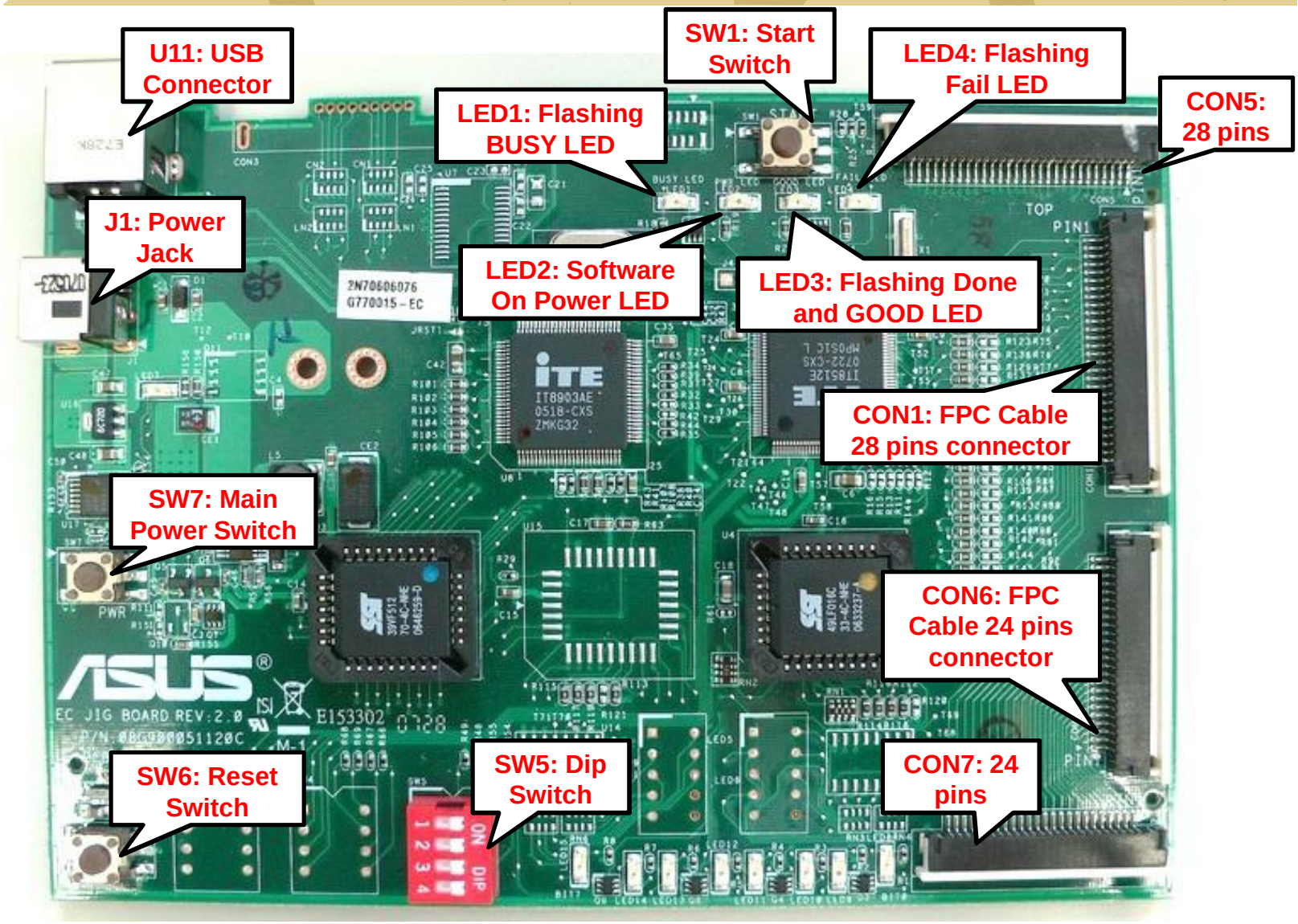
Description:

This is a tool for flashing BIOS. The other three ways introduced before is for the software. In the case of failure flashing BIOS by software, which would cause no boot, the BIOS could be flashed by another tool – JIG BOARD.

Jig Board Introduction

Part Number	Fixture Name	Amount	Photo
60-2N70606073	Jig Board	1	
14G000505705	USB Cable	1	
14G122300240	FPC Cable(28 pin)	1	
14G122300280	FPC Cable(24 pin)	1	
04-266003160	NB Adapter (65W)	1	
14-110060370	Power Cord	1	

Overview


U11: USB Connector
SW1: Start Switch
LED4: Flashing Fail LED
CON5: 28 pins
LED1: Flashing BUSY LED
J1: Power Jack
LED2: Software On Power LED
LED3: Flashing Done and GOOD LED
CON1: FPC Cable 28 pins connector
SW7: Main Power Switch
CON6: FPC Cable 24 pins connector
SW6: Reset Switch
SW5: Dip Switch
CON7: 24 pins

Notebook Supported

The JIG Board only supports the notebook PC whose BIOS chip is ITE.

A	C	F	G	R	T	V	W	U	X	Z
A3AC	C90S	F3SA	G1S	R1E	T12EG	VX2S	W2S	U1F	X51R	Z37E
A3FC		F3SC	G2S	R1F	T12FG	V2JE	W7S			Z84J
A3FP		F3SV	G2P		T12FF		W7E			Z96S
A3H		F3SE			T12FH		W1JB			Z62F
A3HF		F9DC			T12FV					Z62FP
A6F		F9E			T12H					Z62FM
A6RP		F9S			T12J					Z62J
A6HF		F2F			T12J3					Z62JM
A7C		F2HF			T12JG					Z84F
A7CD		F2J			T12RG					Z84FM
A7J		F2JE			T12RV					Z91FR
A7F		F3F			TRSA					Z94RP
A7P		F3H			T11F					Z96F
A7S		F3P			T11J					Z96FM
A8E		F3JA			T11JA					Z96H
A8S		F3JC			T11JB					Z96HM
A8SC		F3JP			T11JL					Z96J
A9RP		F3JR			T12RV					Z96JM
		F3JM			T12MG					Z96JP
		F3JV			T12MV					Z96JS
		F3M			T12UV					
		F3T			T13FG					
		F3TC			T13FV					
		F3U			T13MV					
		F5R			T19F					
		F5M			T19H					
		F9F			T19R					
		F9J								

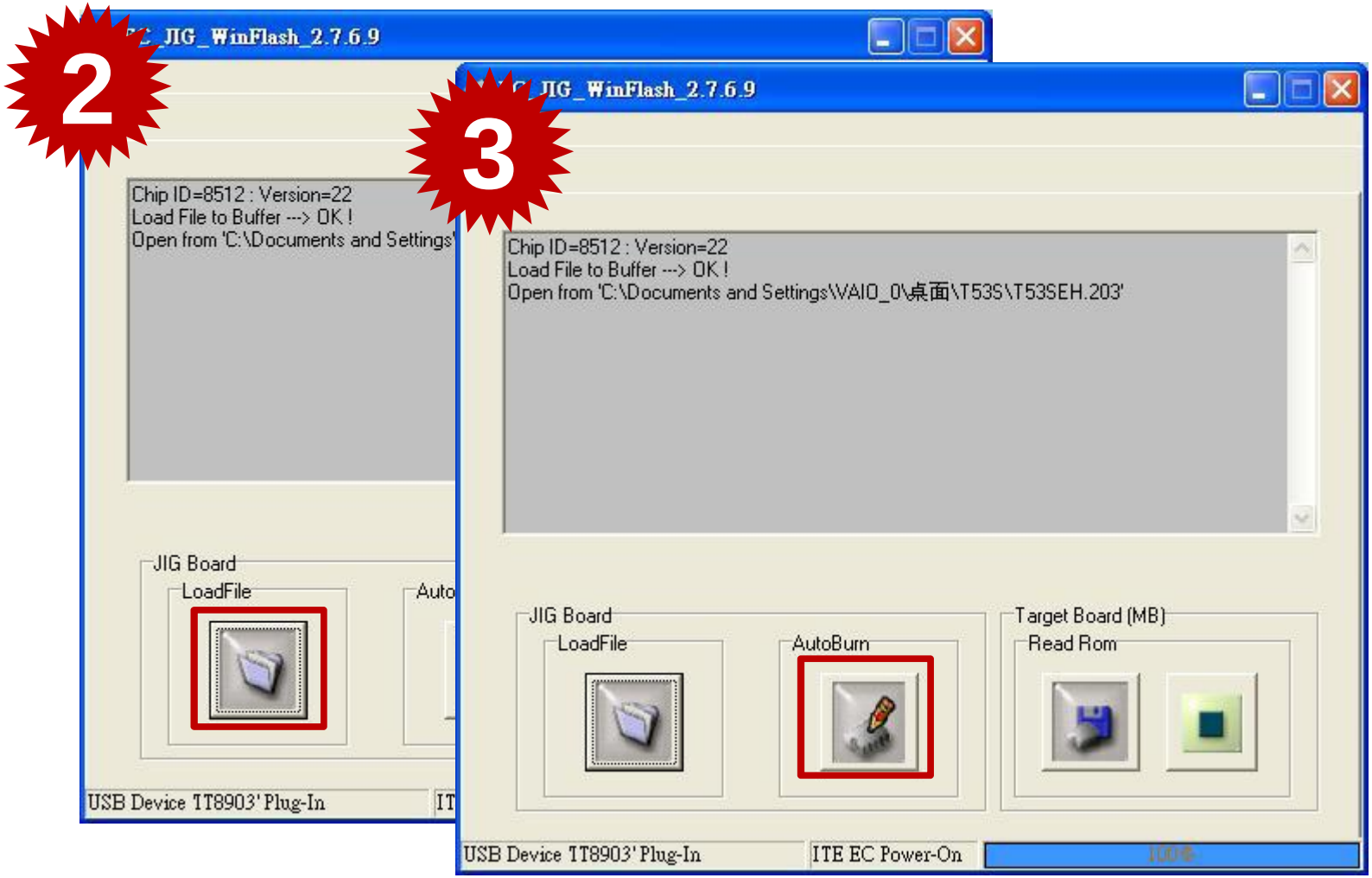
Flashing BIOS with JIG Board

Load ROM files to the JIG Board

1. Use USB cable to connect the JIG Board with the target board. Then plug in the DC Power to JIG Board.(12~19V, notebook power adapter). Press the power button to turn on the board.

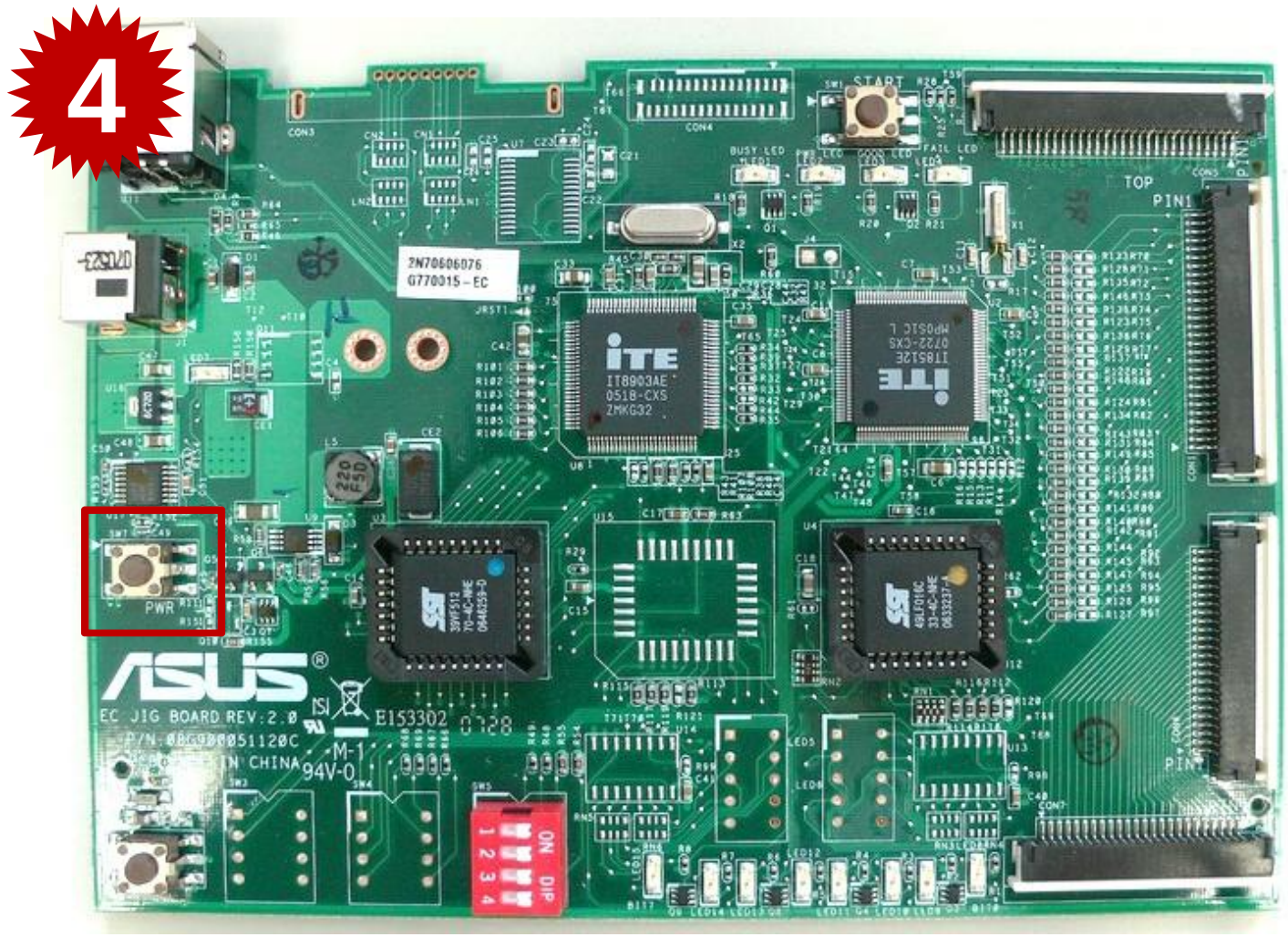
Flashing BIOS with JIG Board

2. Press LoadFile icon to load BIOS ROM file and press AutoBurn icon to burn BIOS ROM file to JIG Board.



Flashing BIOS with JIG Board

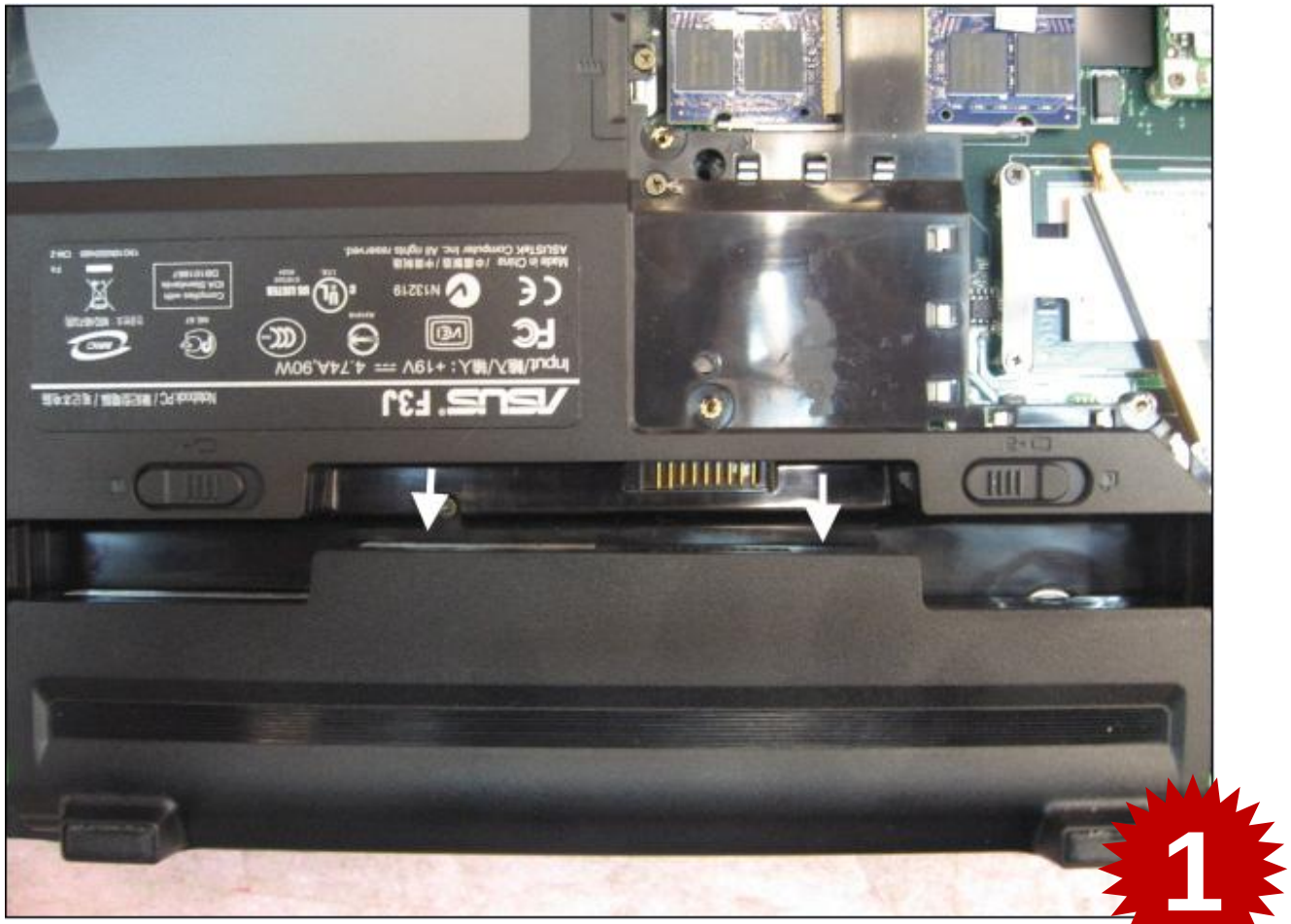
3. After burning done, press SW7 again to turn off main power.



Flashing BIOS with JIG Board

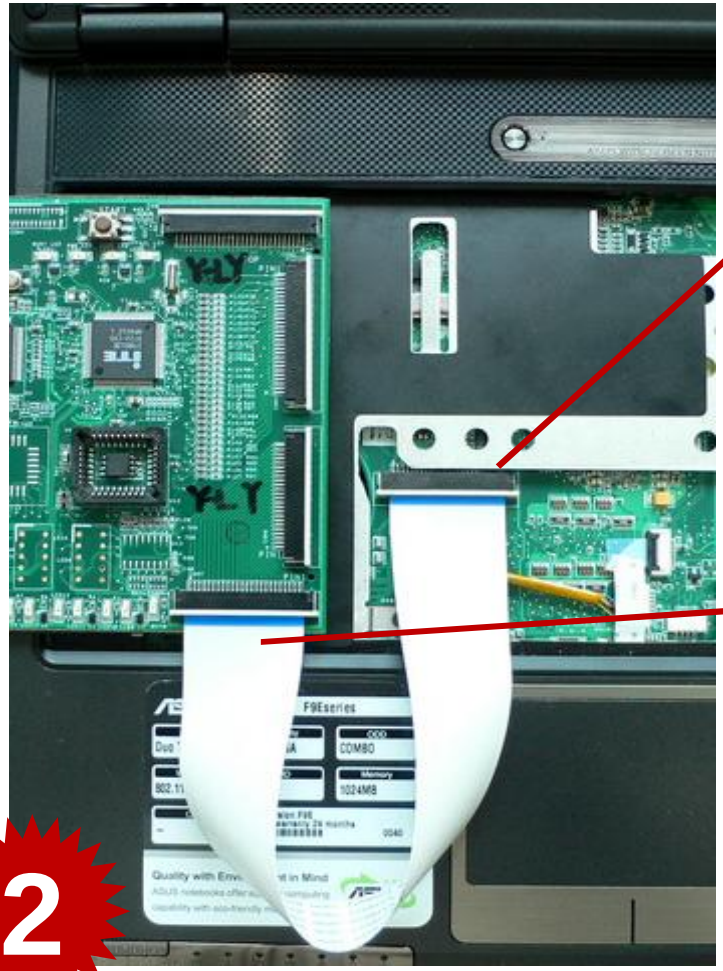
Upload the ROM file to the target notebook

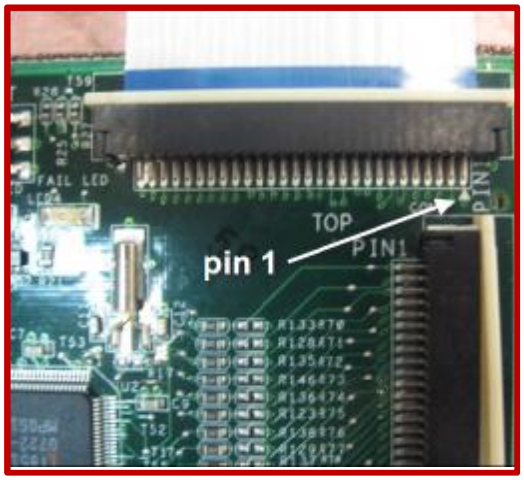
1. Remove the battery of the target notebook



Flashing BIOS with JIG Board

2. Connect the FPC cable between to the keyboard and Jig-Board connector.(connect both side on pin 1)



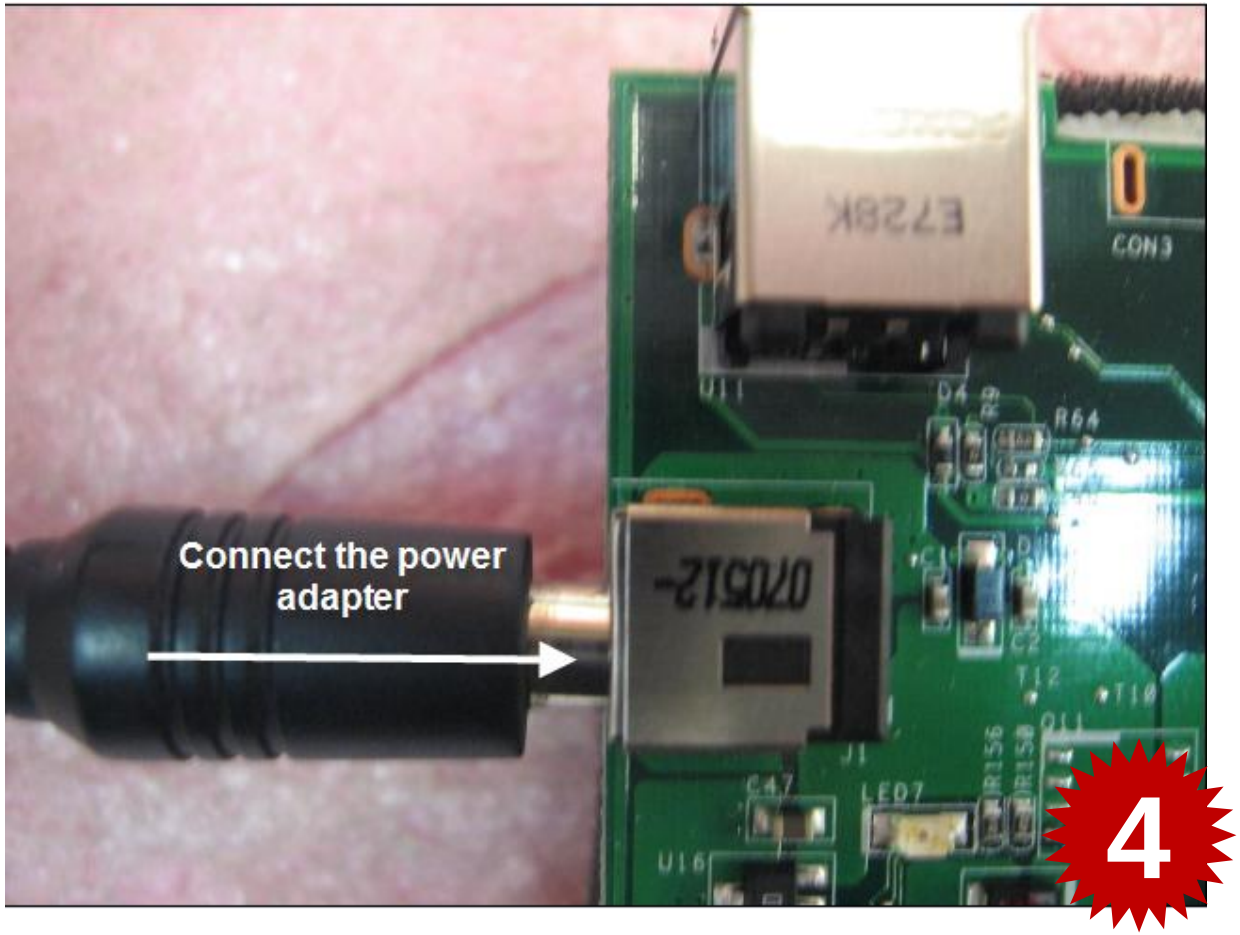


Flashing BIOS with JIG Board

3. Connect the USB cable on the Jig-Board and notebook.

Flashing BIOS with JIG Board

4. Connect the power adapter on the Jig-Board.

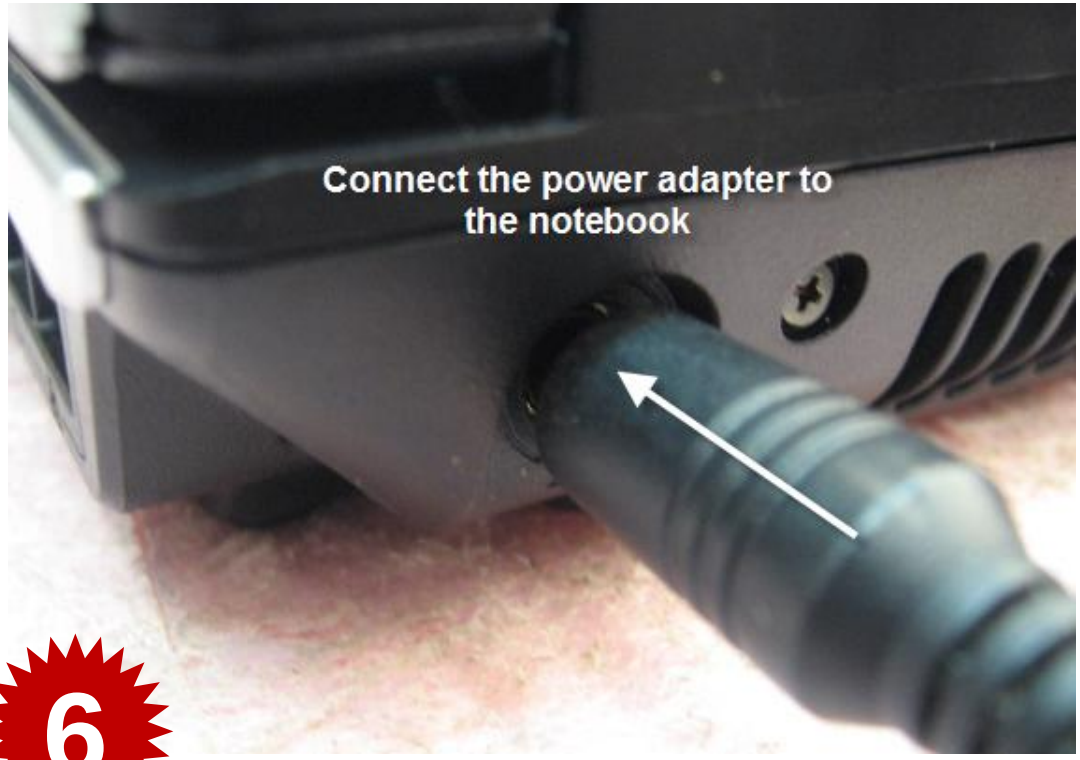


Flashing BIOS with JIG Board

5. Turn the Jig-Board on by pressing the power button.

Flashing BIOS with JIG Board

6. The finally connection is the power adapter into the notebook.



There is a connecting rule between the Jig-Board, notebook and adapters!!!! If you don't follow these steps, you can't upload the ROM file. Because the circuit needs to be closed by the notebook power.

Flashing BIOS with JIG Board

7. Press on the start button on the Jig-Board.

Message ID List

Message	Process	Note
AA	Wait for check KBS interface	The scenarios will influence by the following conditions: The utility did not detect the KSO9=0 The FPC cable connected to the connector with reverse side. The JIG Board crisis recovery data structure did not match the target keyboard connector define. Target system does not have the power source.
00	Flash erase	
10~1F	Flash Program	For 1M/2M flash
20~2F	Flash Verify	For 1M/2M flash
55	KBS test fail	The scenario will influence by the following conditions: The JIG Board crisis recovery data structure did not match the target keyboard connector define. The target system has other power sources before JIG Board SW6 turn on.
00~FF	Read ROM	For 1M/2M flash
88	Flash successfully	

Chapter 7.1
USB BOOT UP INTRODUCTION

Equipment Description

NO#	Equipment Description	ASUS Part Number	Quantity	Remarks
1	CRT MONITOR	20-520000282	1	
2	ENG_EZUSB BOARD R1.03	80-C218-0103	5	
3	USB CABLE	22-060000050	5	
4	Memory Stick Card	20-T004B1011	1	
5	SCANDISK SD MEMORY CARD	20-TT2600048	1	
6	Test CD	22-060002570	1	

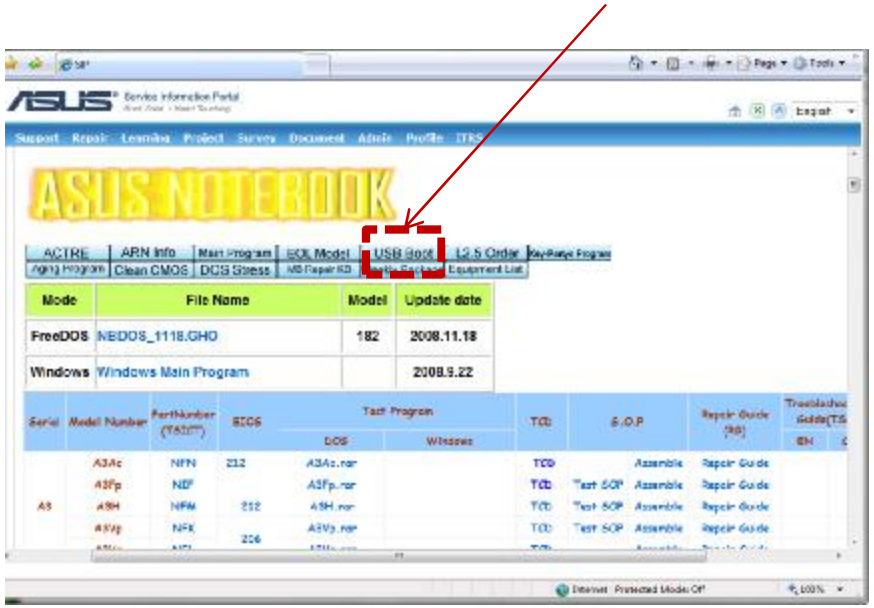
Create USB boot-up DISK

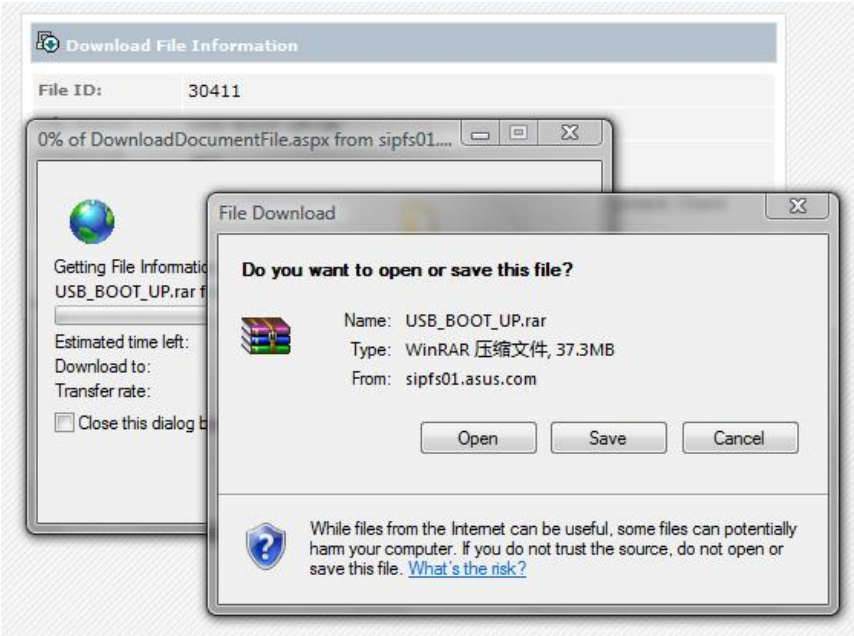
Advantages:

1.Boot directly from AI-flash and run test programs under FreeDOS, DO NOT need unplug HDD.

2.No need using HDD(A substitute method before NDSS online)

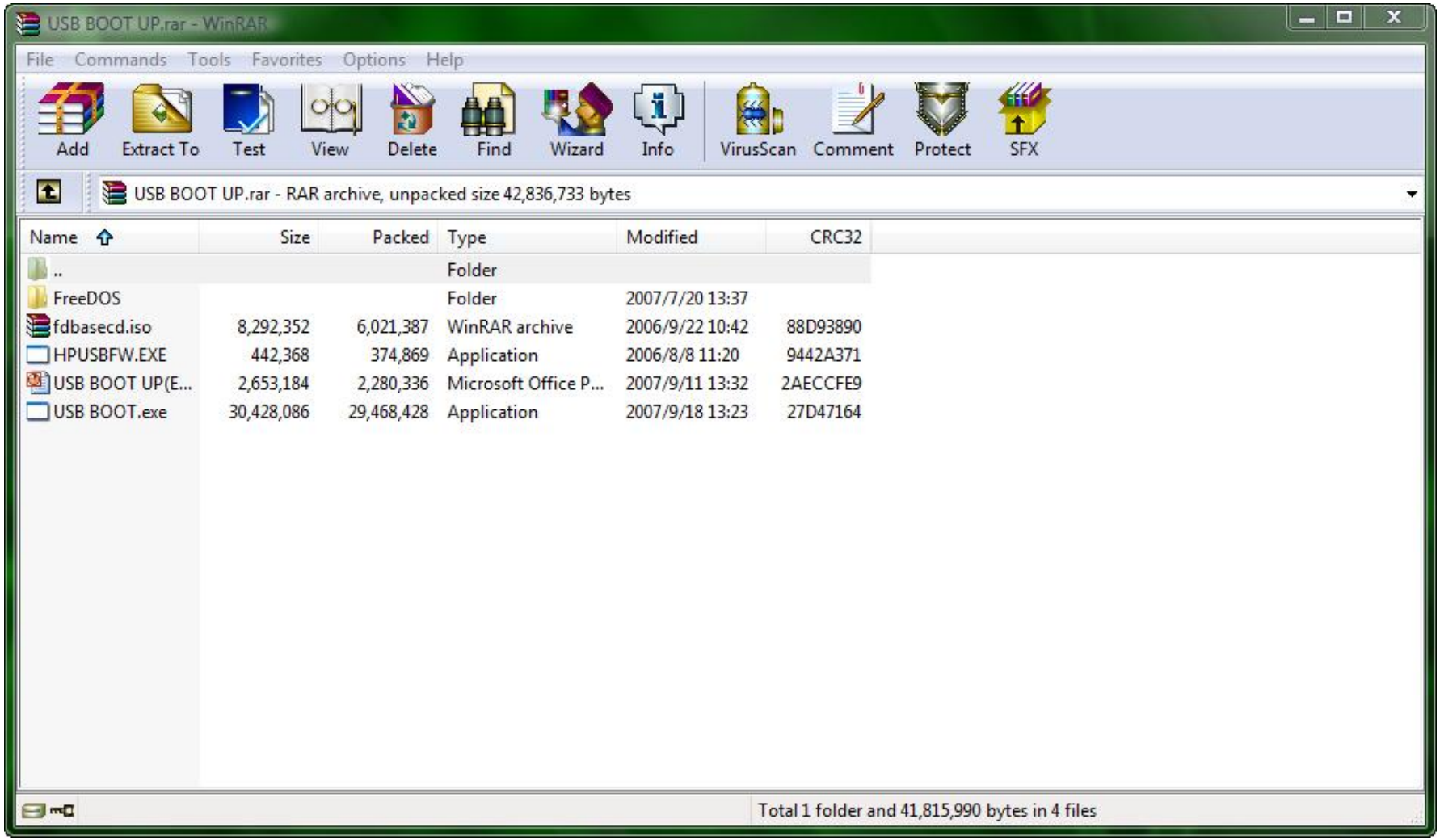
STEP 1: Download "USB Boot" from SIP





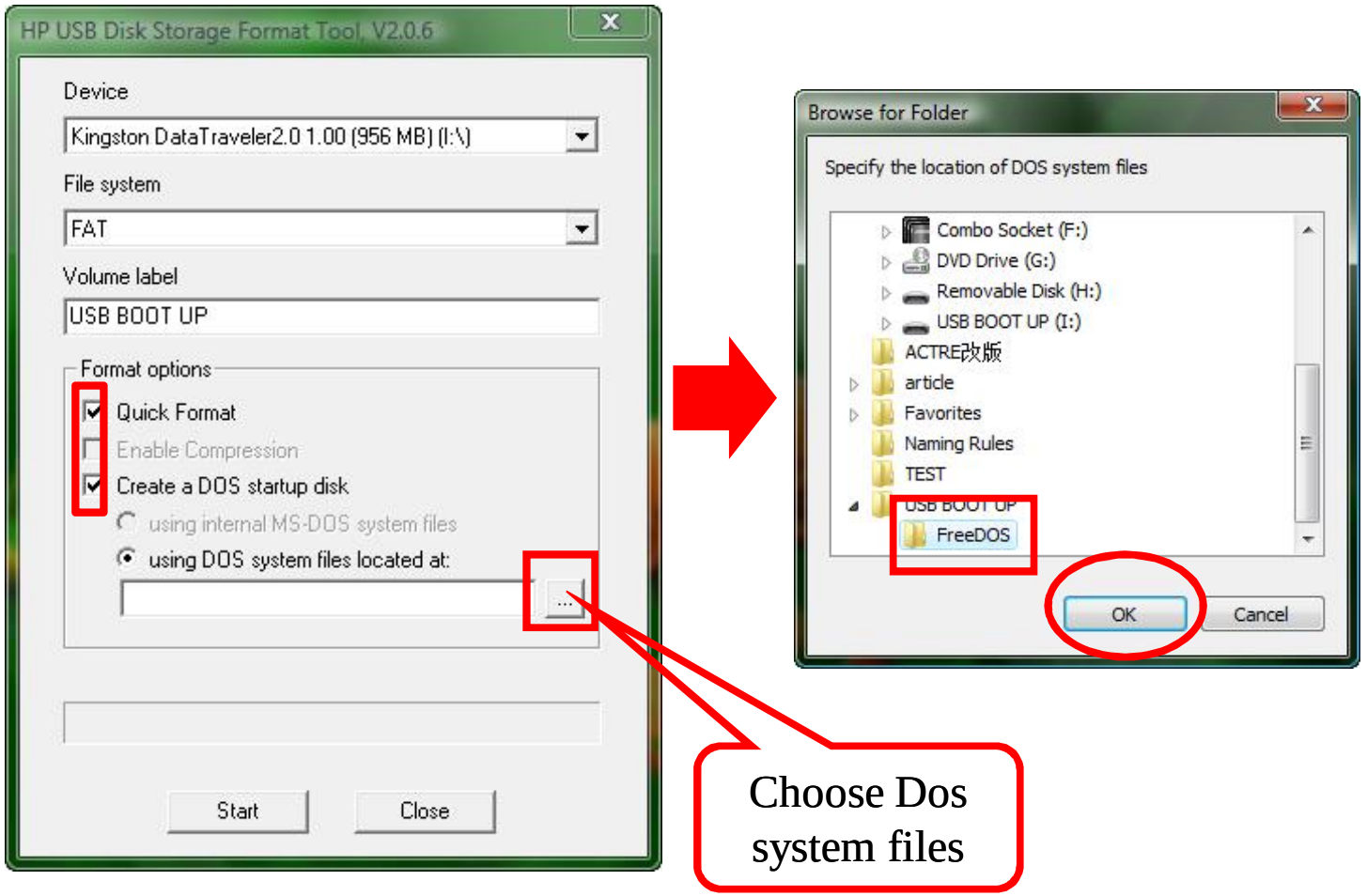
Create USB boot-up DISK

STEP 2: Extract the RAR file to any folder(eg. extract to E:\)

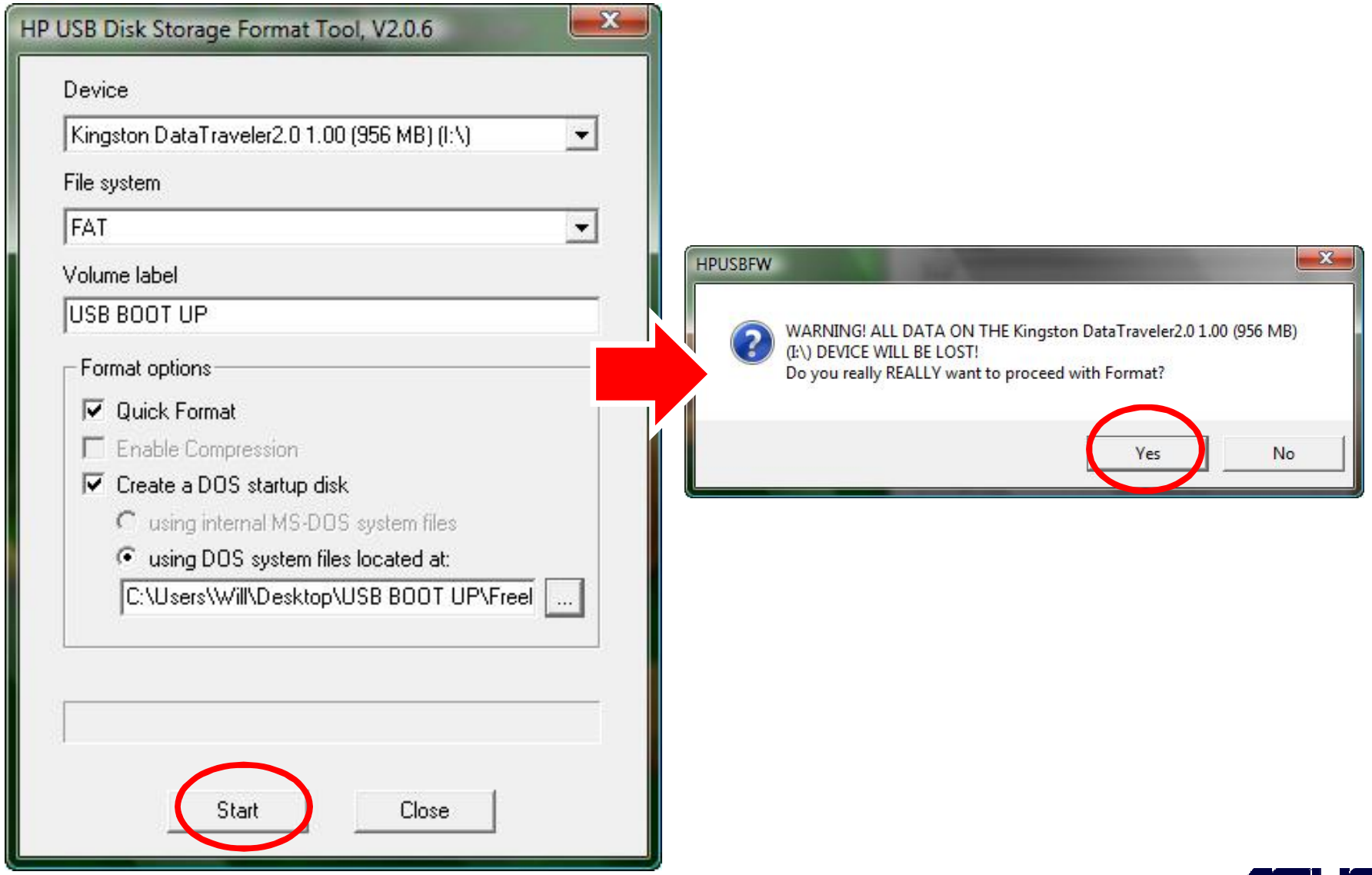


Create USB boot-up DISK

STEP 3: Use HPUSBFW.EXE to Format AI_FLASH and create a DOS startup disk

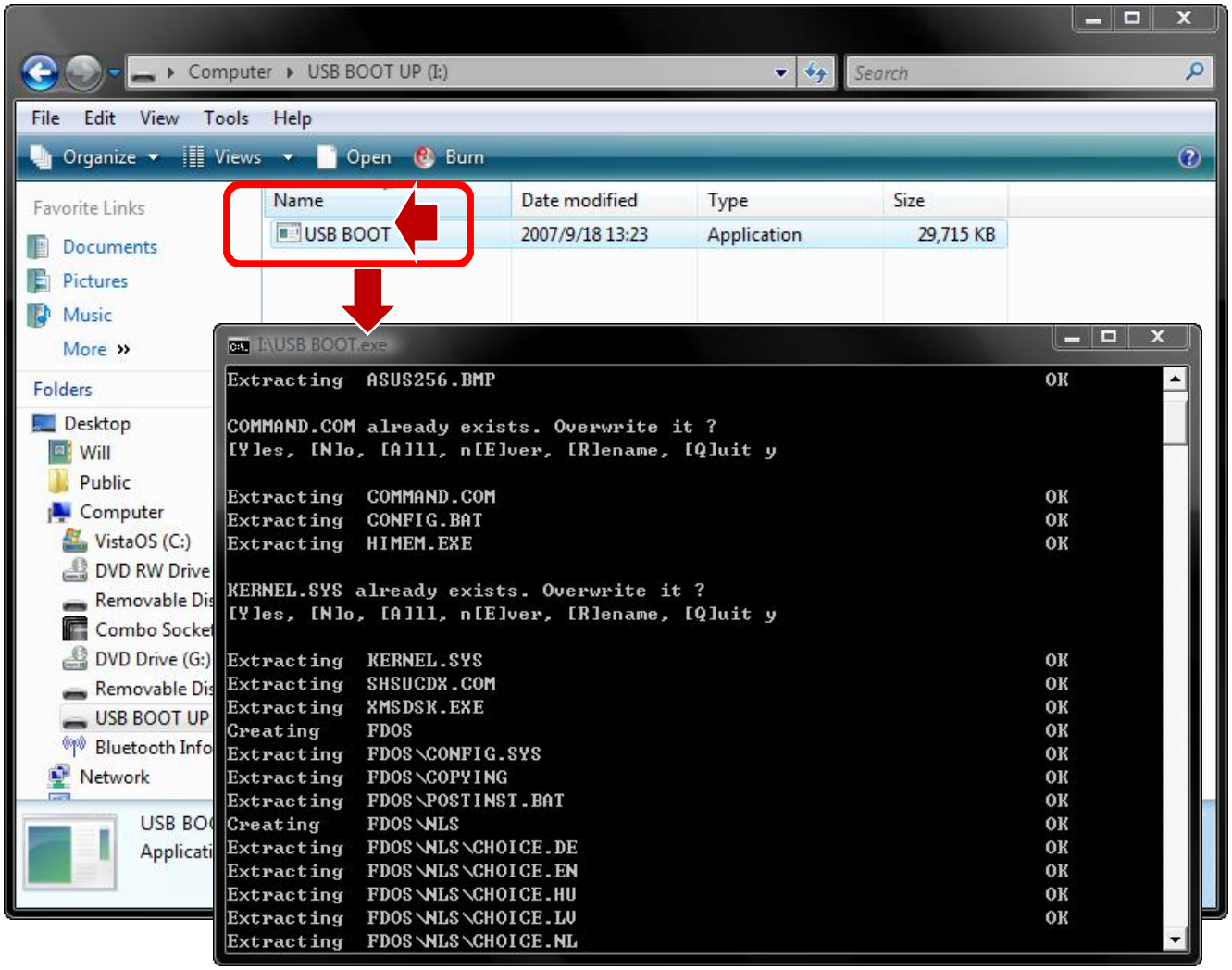


Create USB boot-up DISK



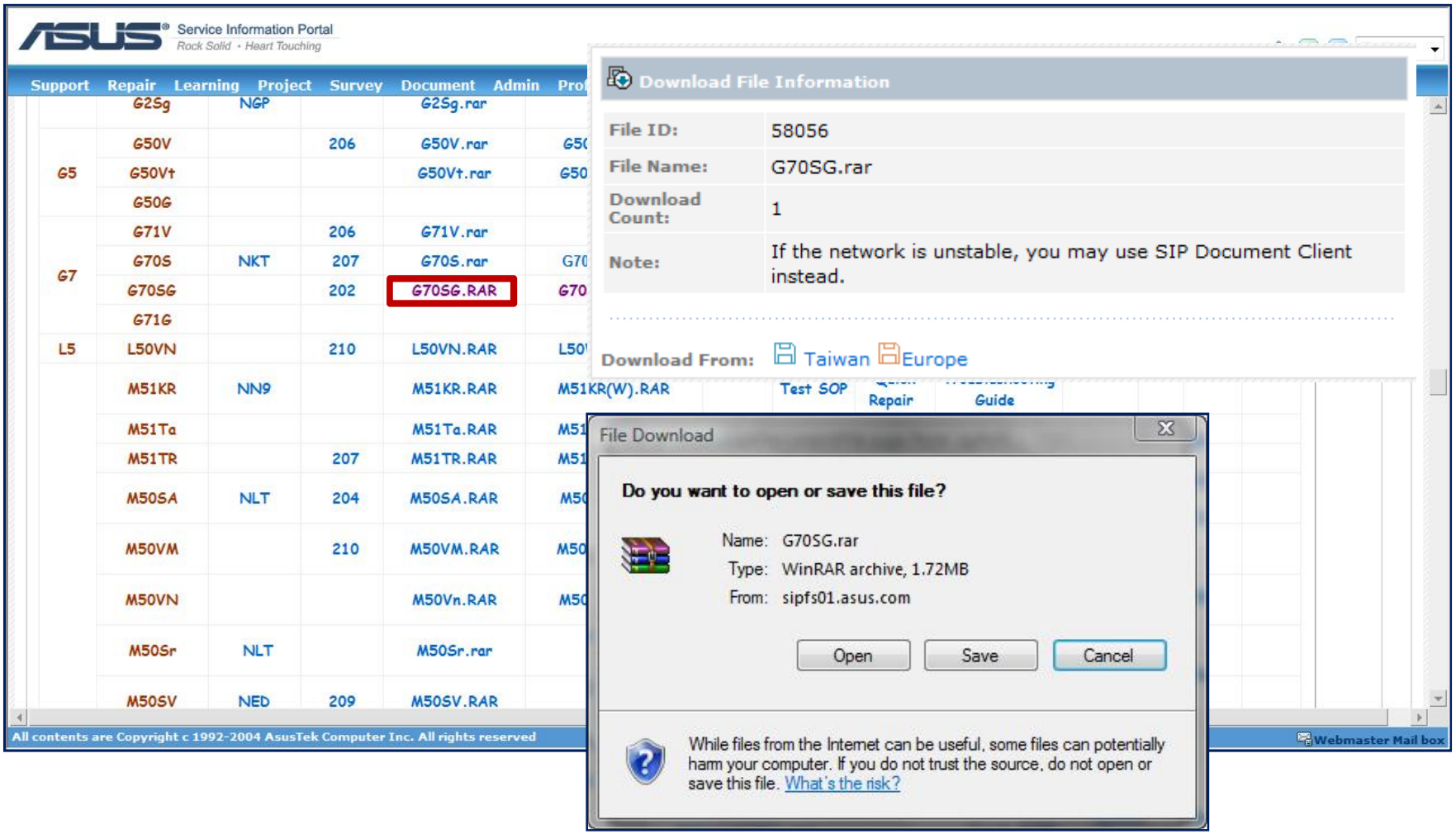
Create USB boot-up DISK

STEP 4: Copy USB_BOOT.EXE to AI_FLASH and double click it



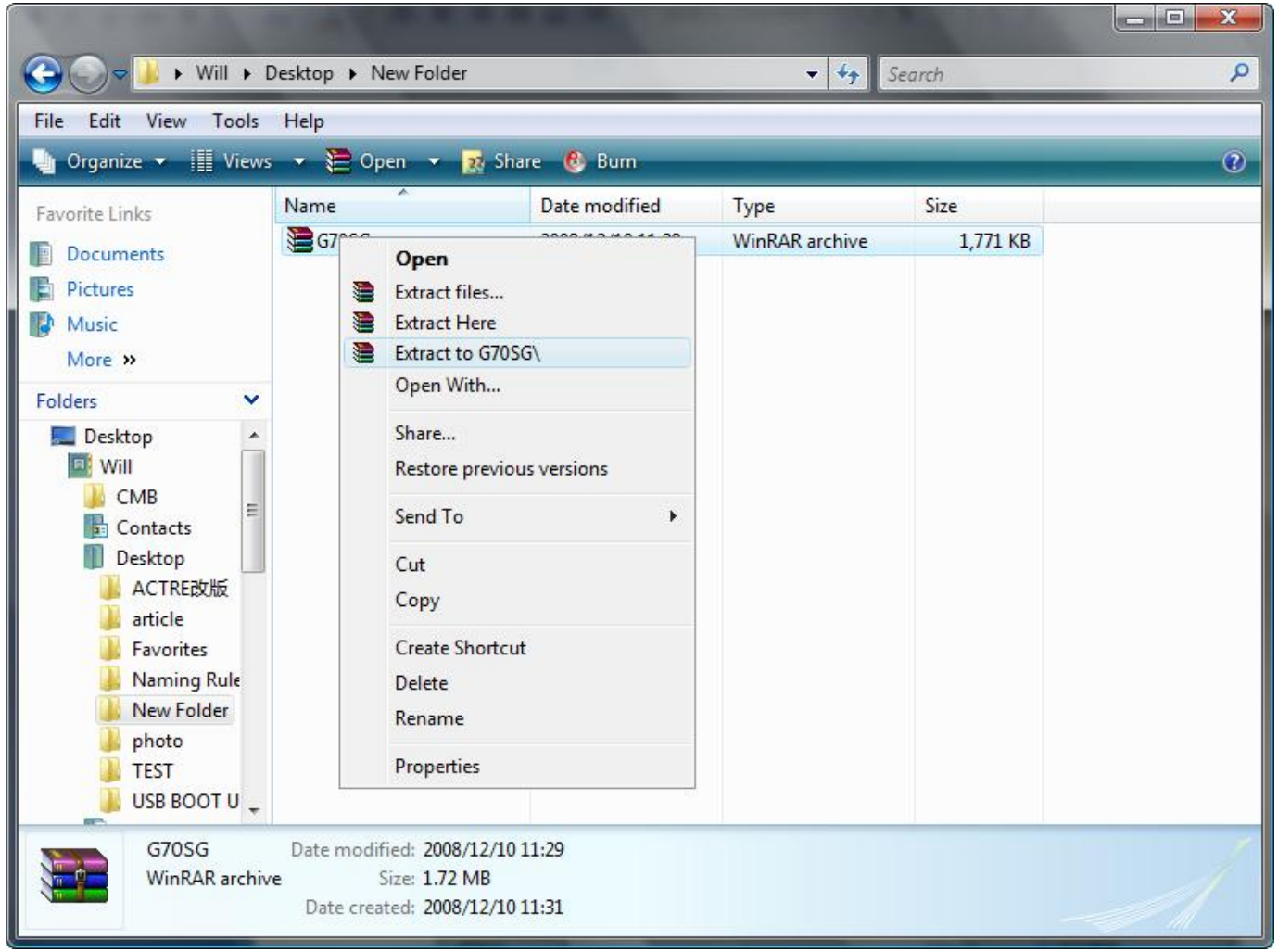
Create USB boot-up DISK

STEP 5: Download Test Program from SIP



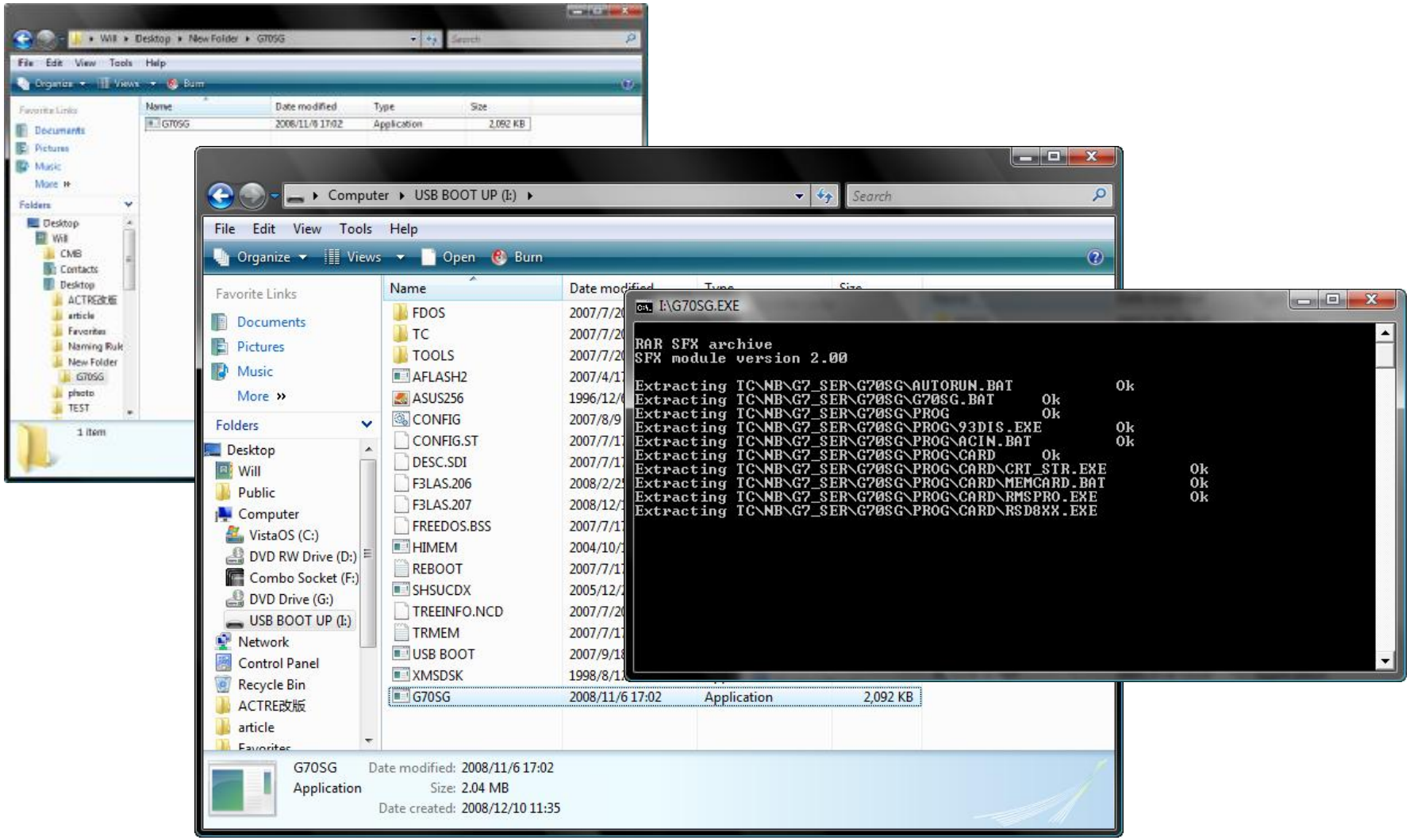
Create USB boot-up DISK

STEP 6: Extract the rar file just downloaded to any folder to get an executable self-extracting file



Create USB boot-up DISK

STEP 7: Copy the file to the root of AI_FLASH, and double click it



Chapter 7.2
Test in FreeDOS

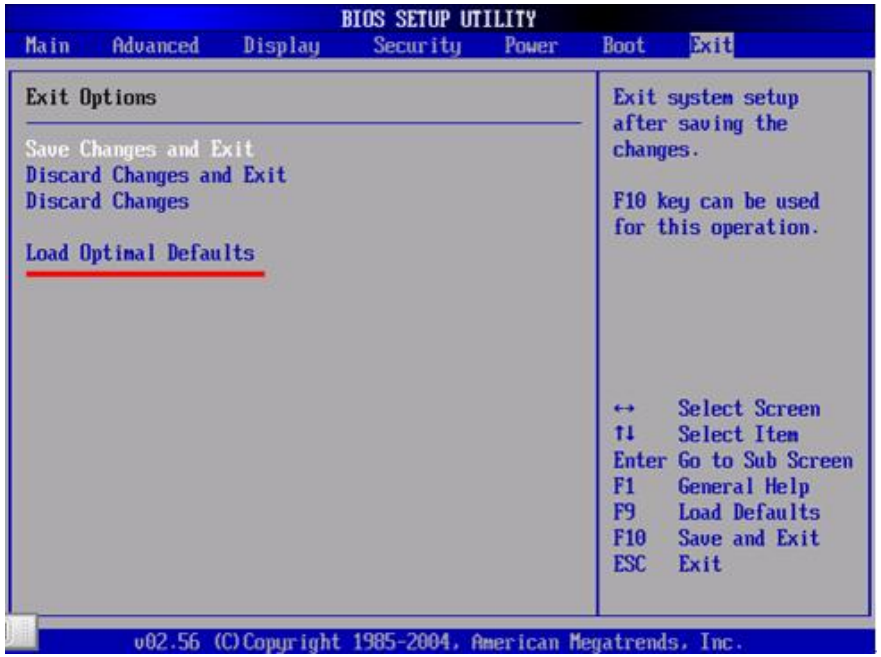
Attention

1. Connect the test fixture correctly.
2. Please put on the battery and connect the power adaptor to DC power input jack before run the test program.
3. If it happens in problem, please inform the test supervisor. For safety, Turn off main power when Test idling or during break time.

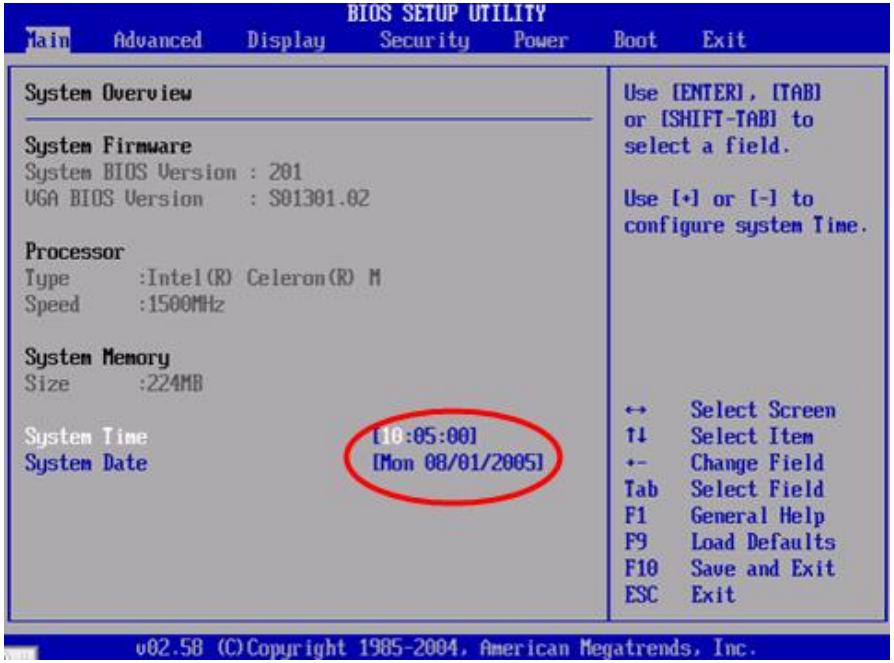
Test Setup

1. Press Power Switch then press the ‘Power Button’ to make power on.
2. NB system BIOS allows users to change some system hardware/function settings during POST (power on self test) stage. Users may hit <F2> key to enter SETUP mode in POST, the setup feature is categorized into 6 menus described as below.

Step 1. Load Setup Defaults



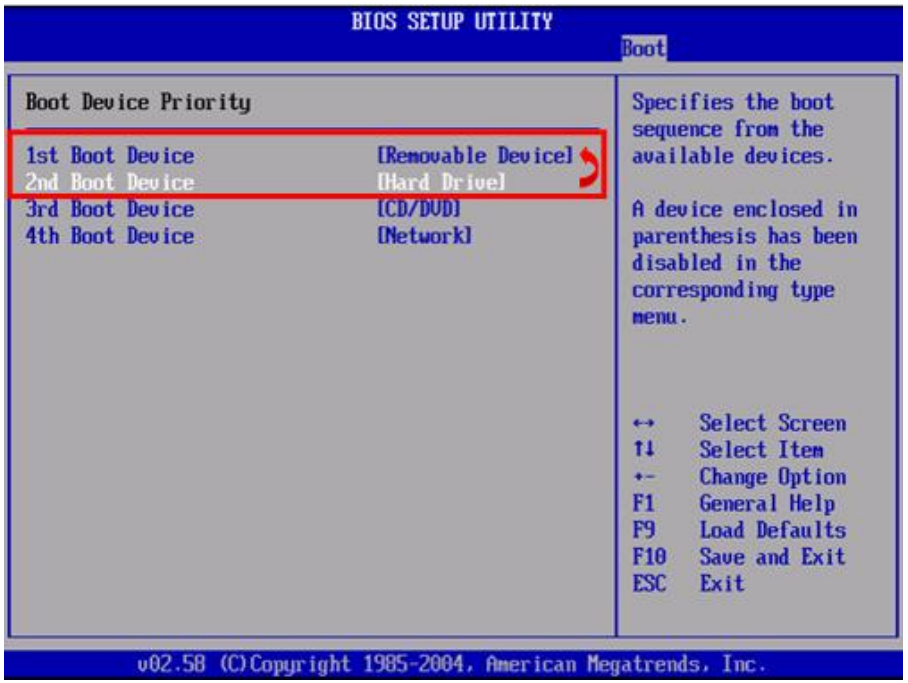
Step 2. Check/Setup System time/date



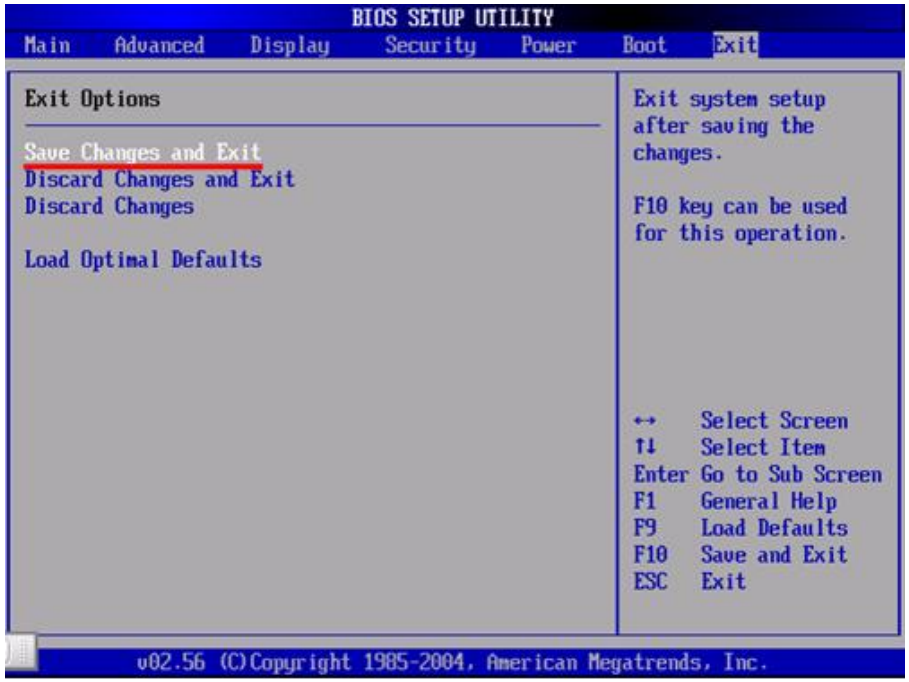
Test Setup

Step 3. Setup Boot Device Priority

Boot -> Boot Device Priority->1st Boot Device [Hard Disk]



Step 4. Save Changes and Exit, then System will reboot.

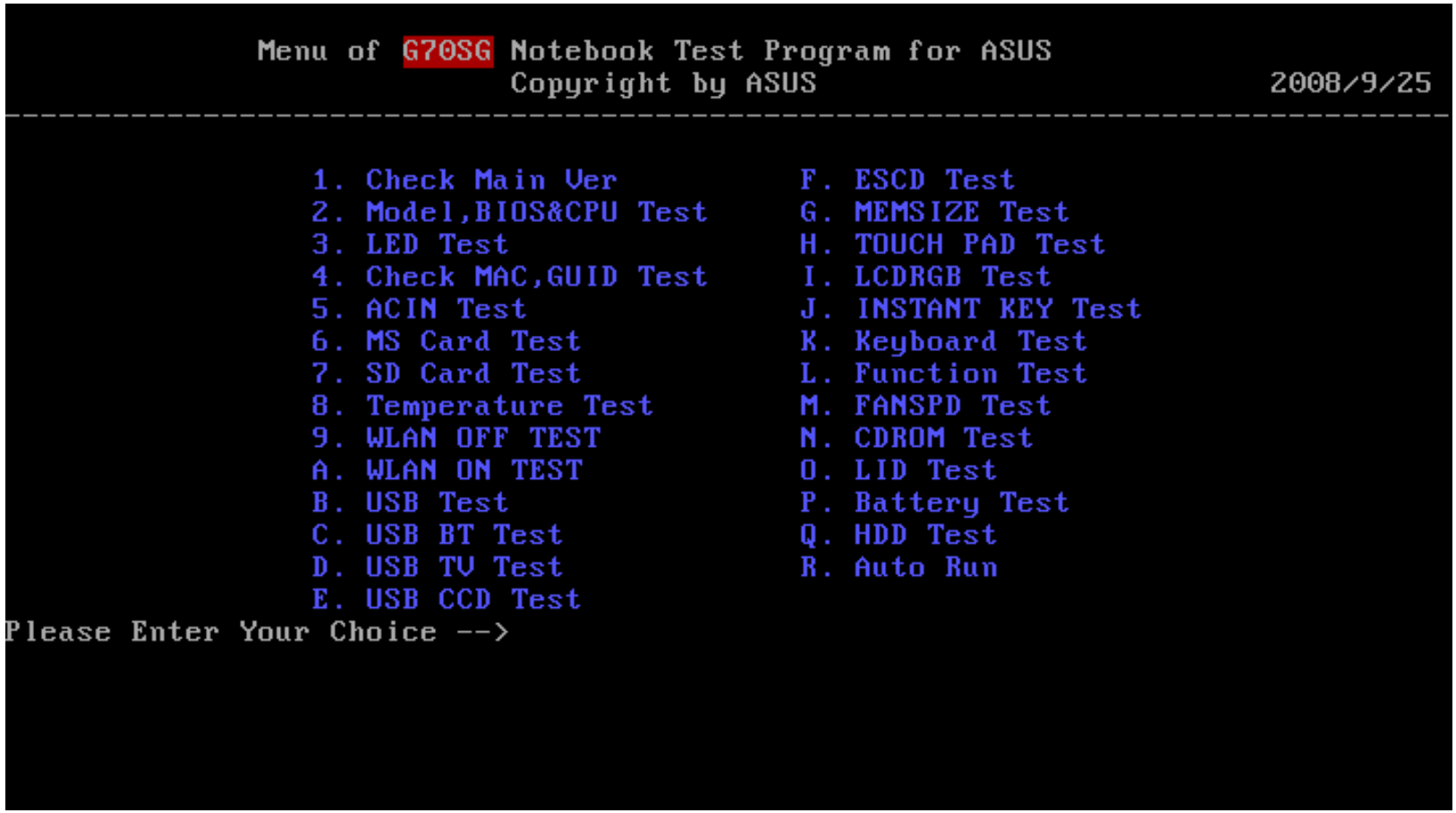


Enter FreeDOS Mode

1. Boot up the system with the Test USB Boot-up Disk.
2. Press ESC Key, then select booting from U Disk.
3. Entering FreeDOS.
4. Press ESC then see the FreeDOS UI.
5. Choose Testing Model. EX. TC->NB->G7_SER->G70SG
6. Select the BAT file of Testing Model, shown as below.

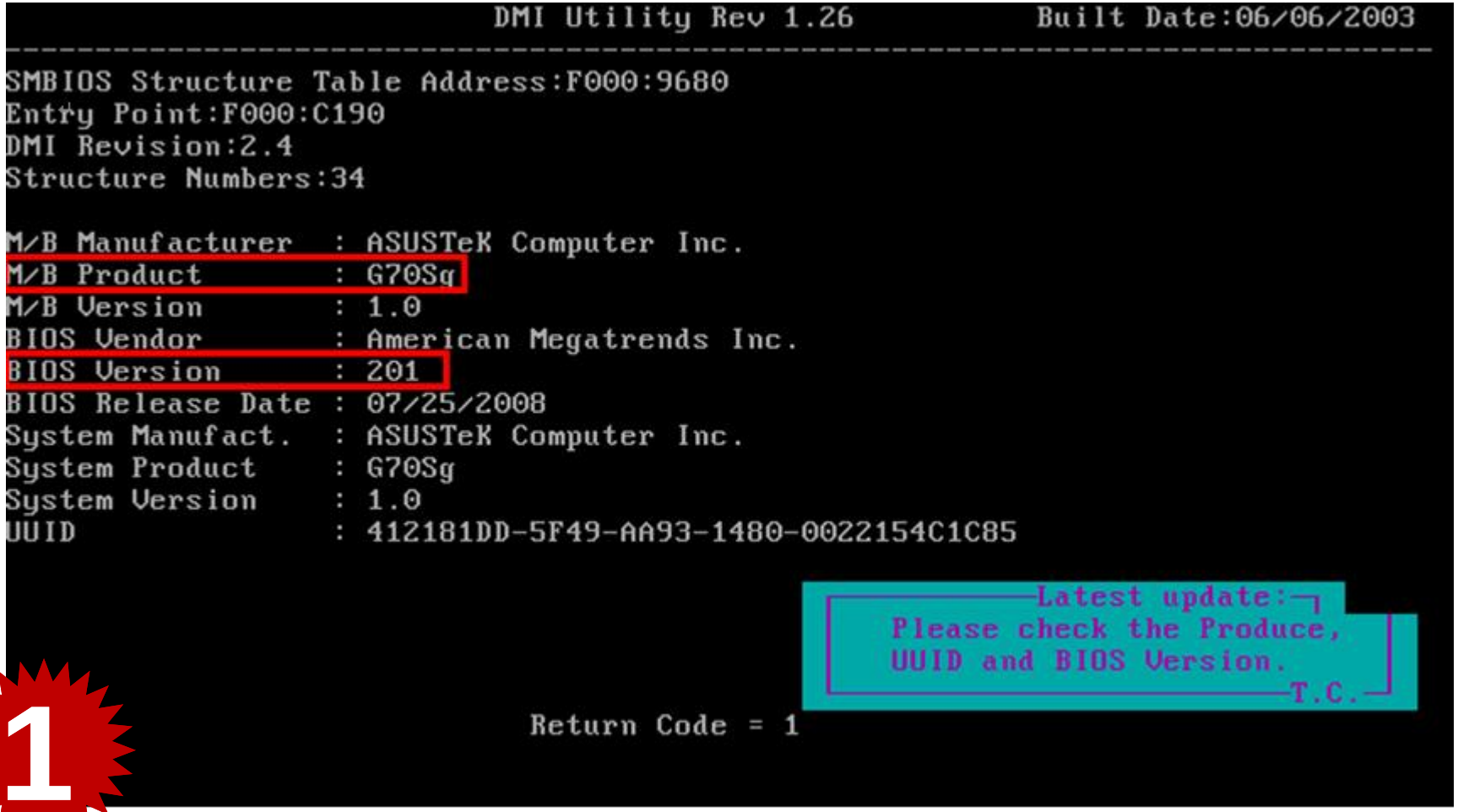
Enter FreeDOS Mode

7. Select the Function Test Item according to the TEST Program Menu.



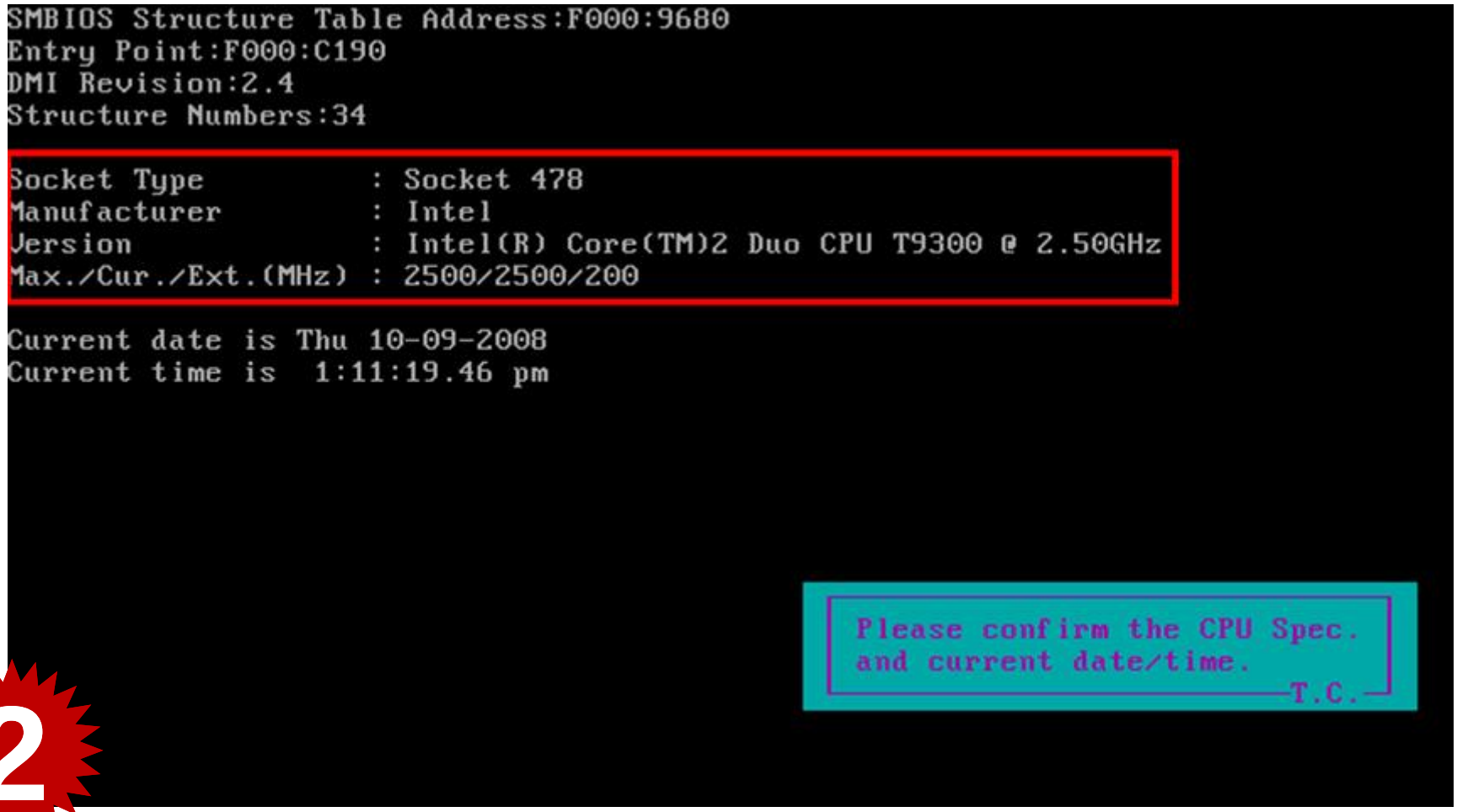
Model and BIOS Test

1. Check Product type
2. Check BIOS Version



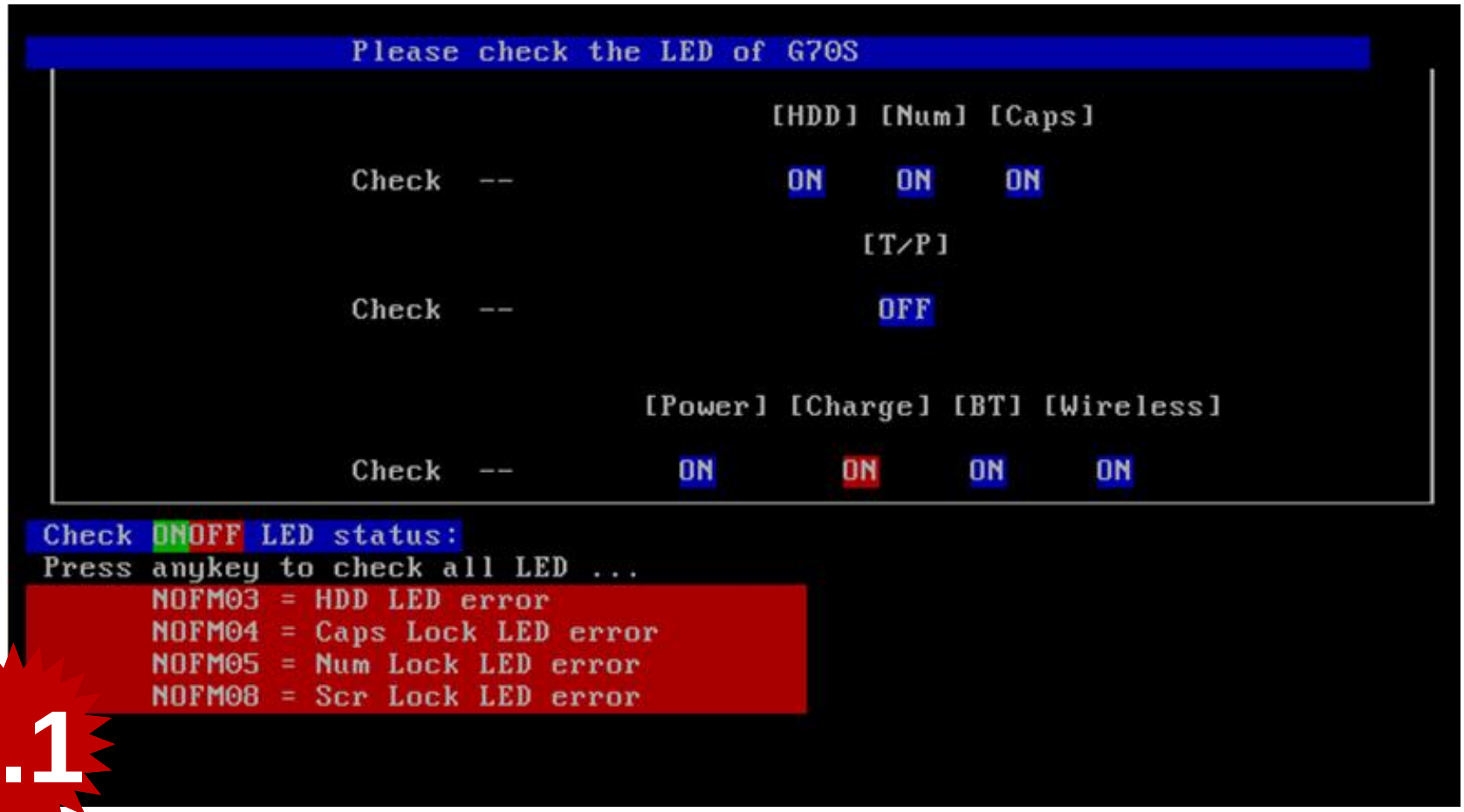
Confirm the CPU SPEC

1. Confirm the CPU SPEC.
2. Confirm the current date/ time.



LED Test

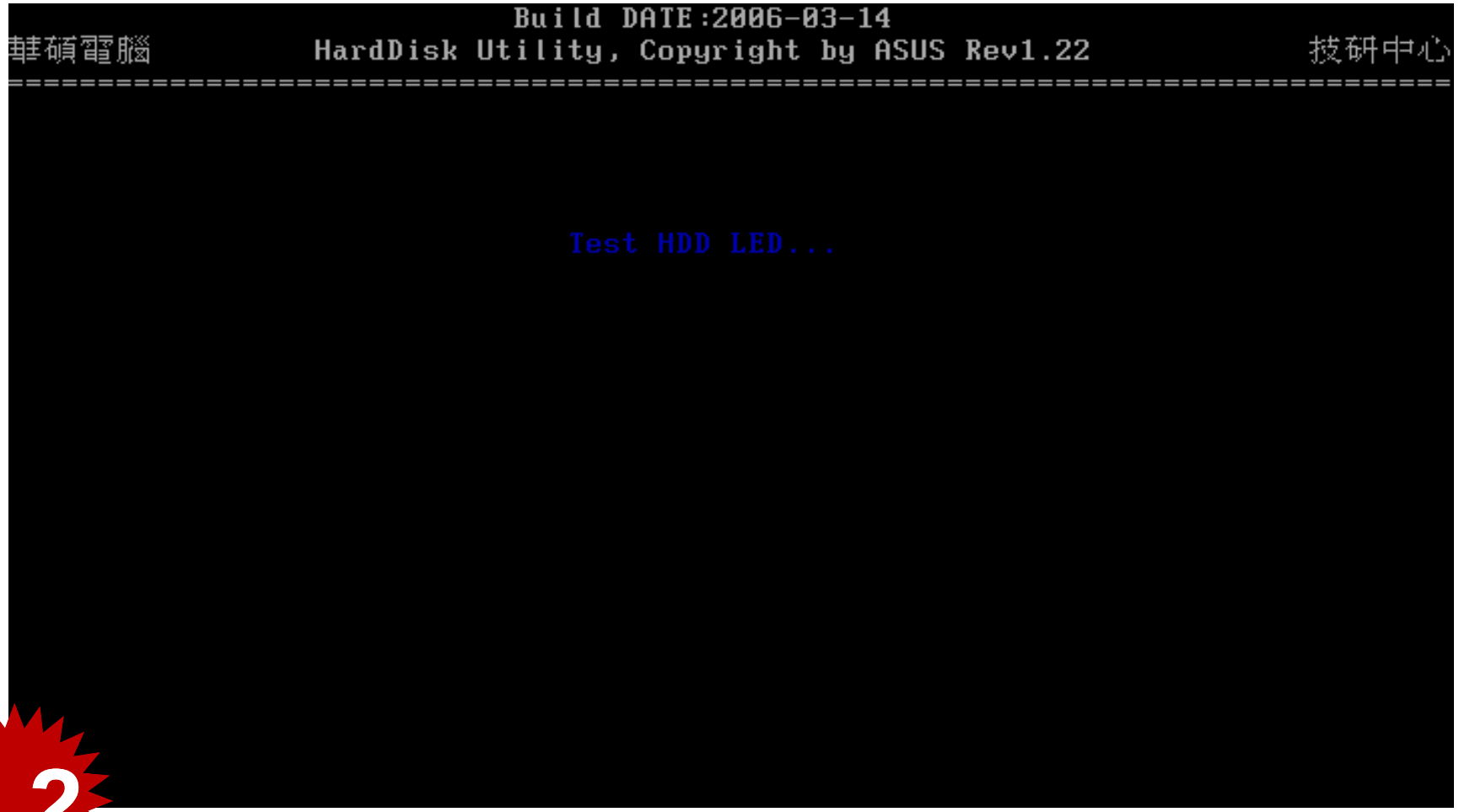
- Check the light of LEDs, press any key to test next LED. Ensure the status LEDs function properly.
- If the LEDs are different to the screen display, that means test fail.



3.1

LED Test

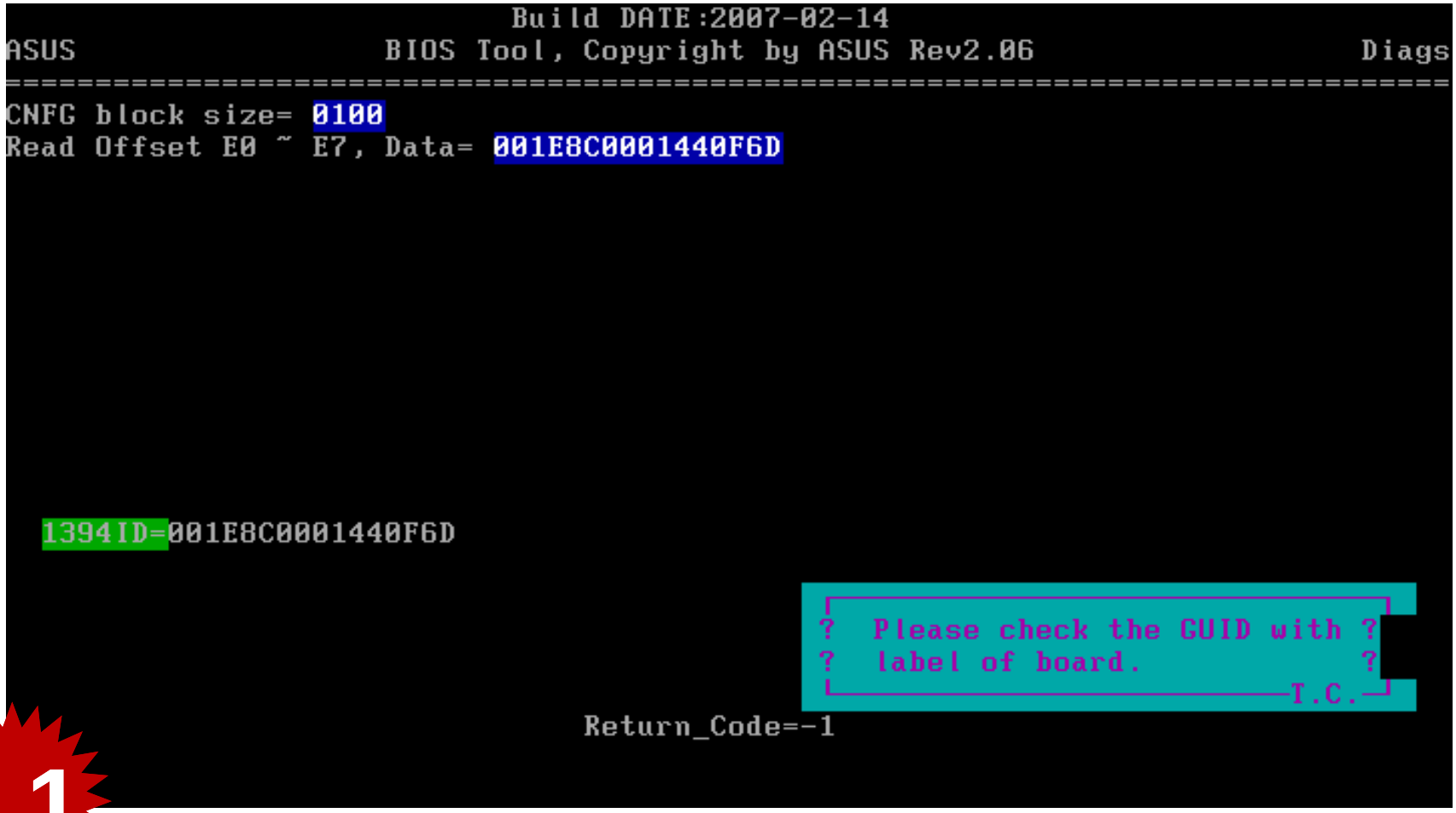
- Check the light of HDD LED, then press ‘H’ to exit.



3.2

CHK 1394&MAC

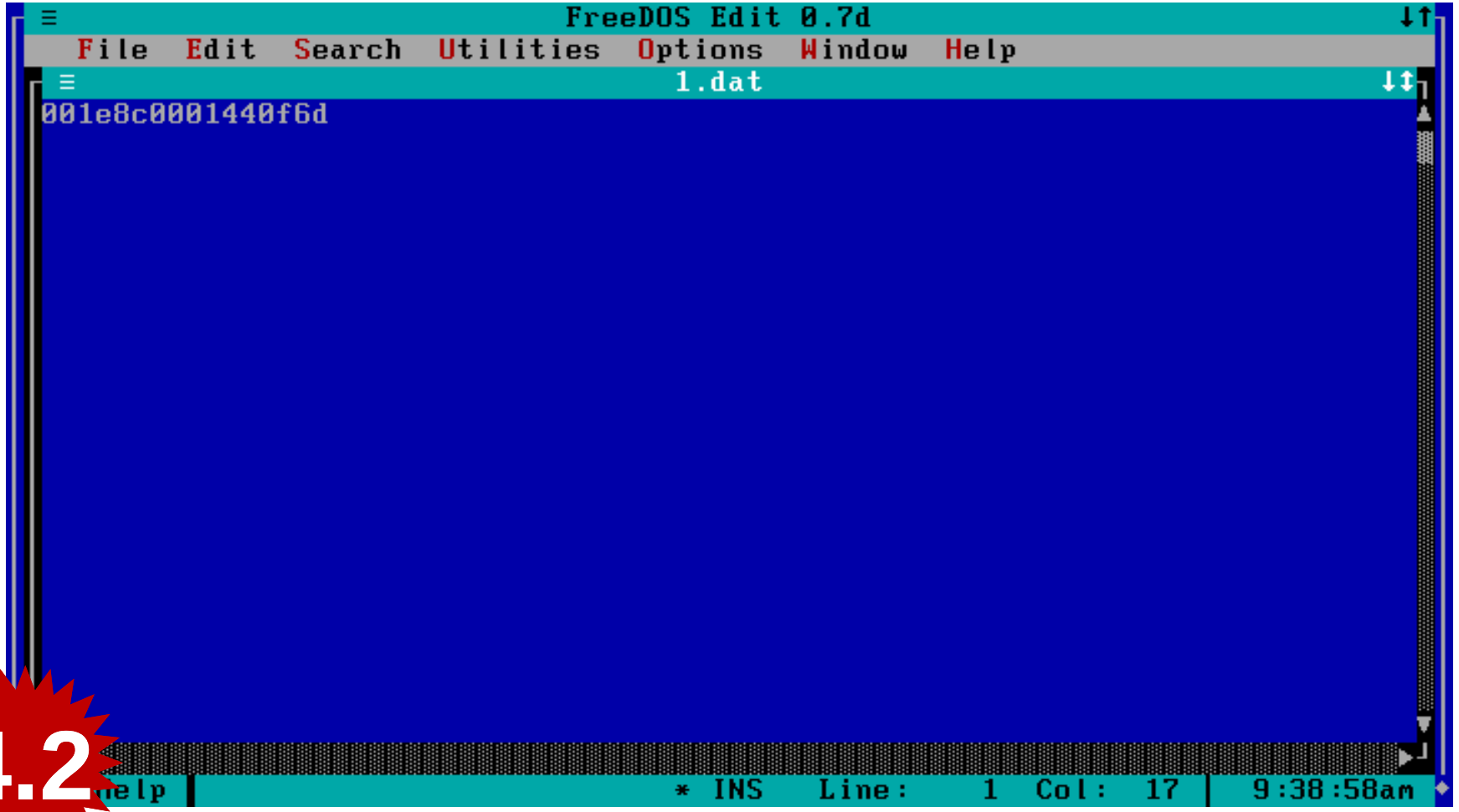
- Check 1394 ID number is correct.



4.1

CHK 1394&MAC

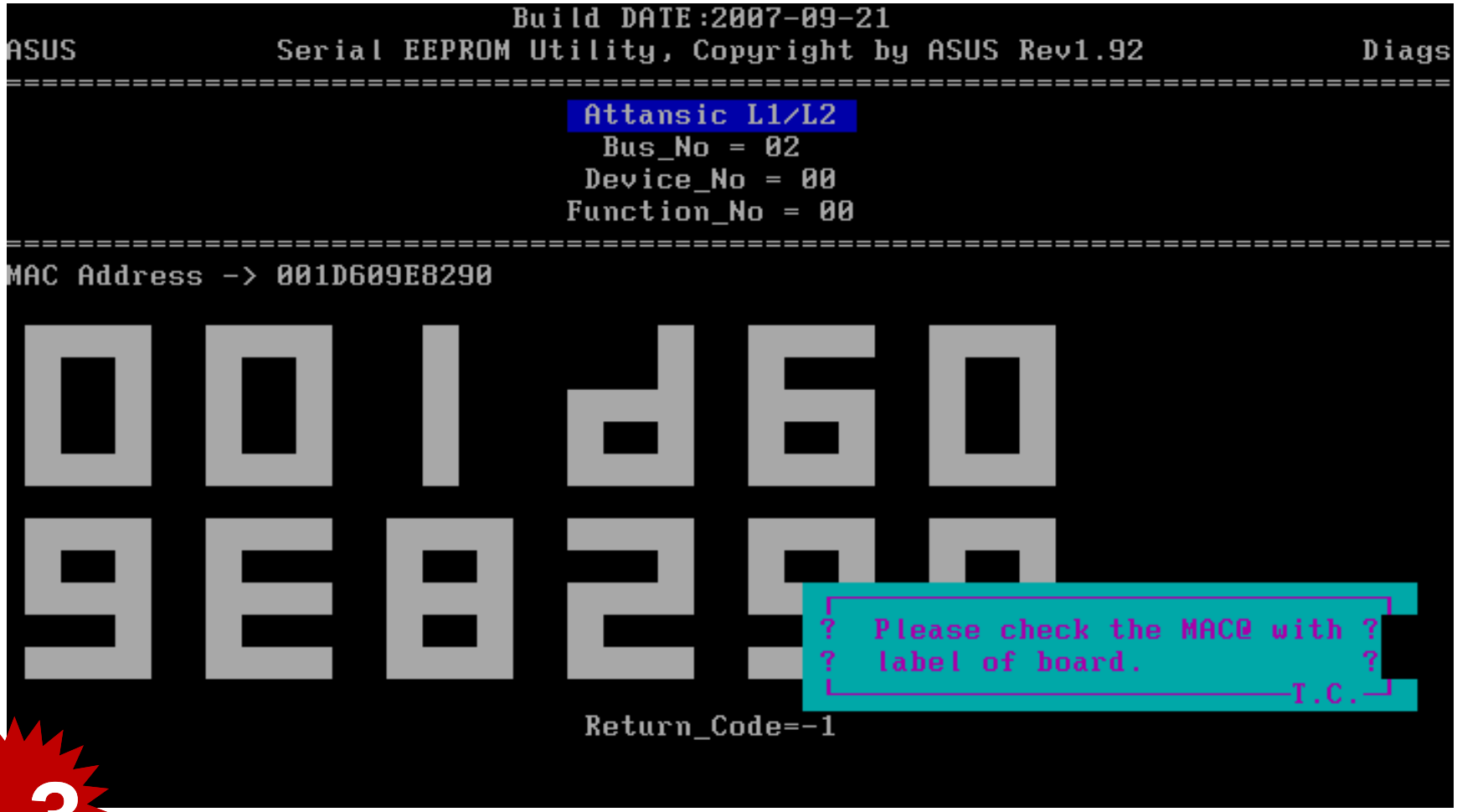
- Input 1394 address
- **Please type the right 1394 address. Then save this file!!**



4.2

CHK 1394&MAC

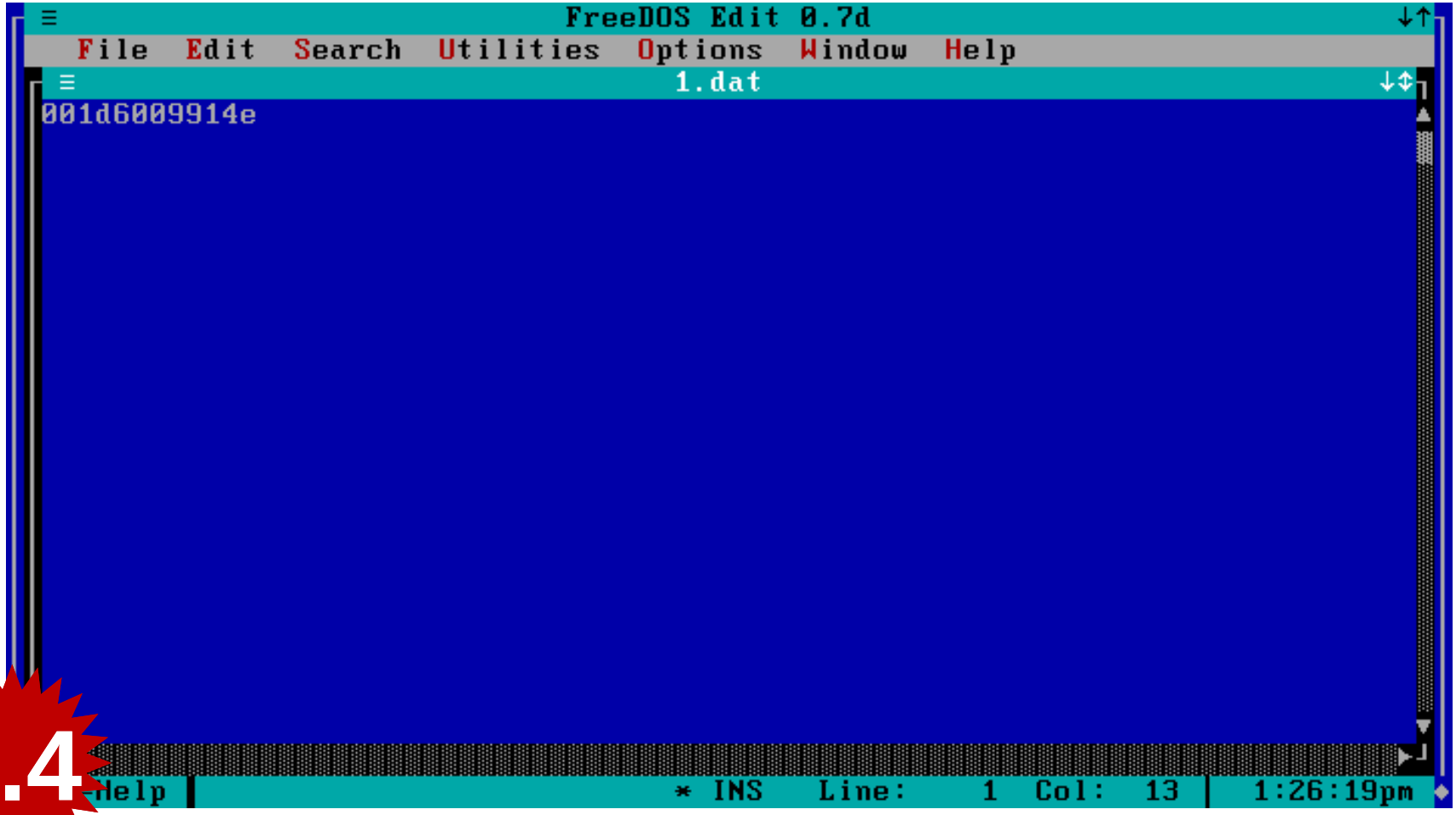
- Check MAC address is correct.



4.3

CHK 1394&MAC

- Input MAC Address
- Please type the right MAC address. Then save this file!!



4.4

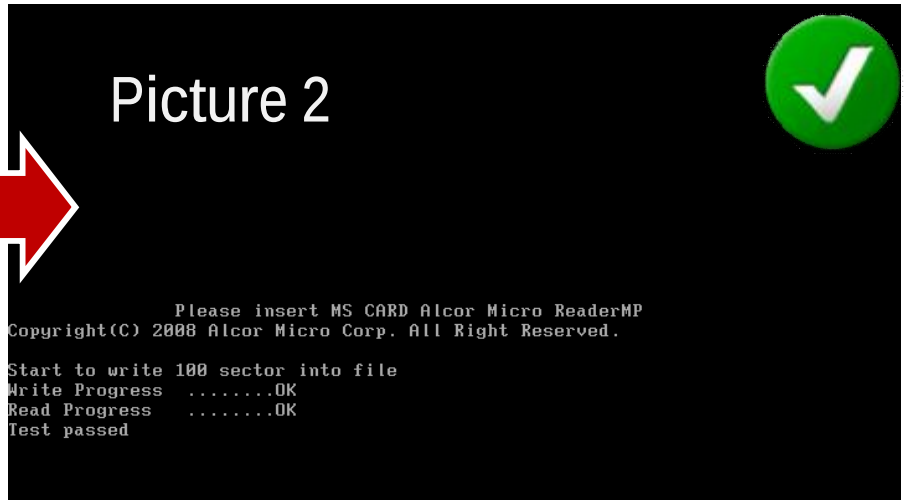
AC-IN Test

- Insert the AC input to check. Test fail will show this PIC

5

MS CARD Test

Please insert the MS-card into Card Reader (Picture 1)



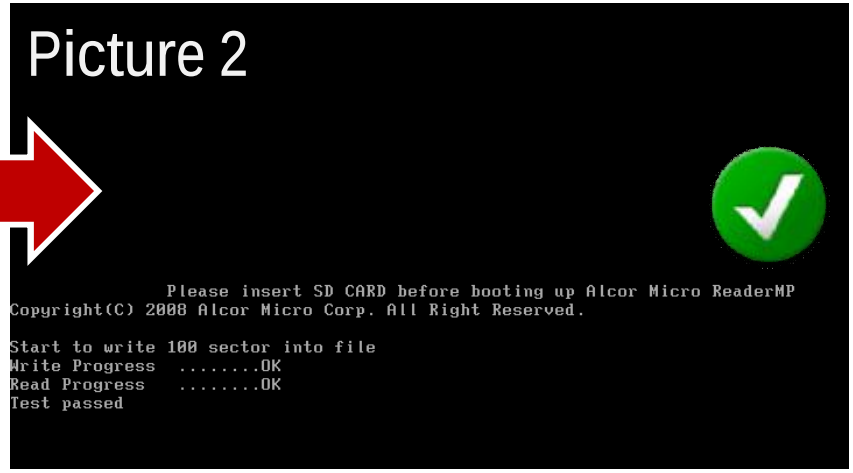
Test fail will show this PIC

6

SD CARD Test

Picture 1

Picture 2



Test fail will show this PIC

7

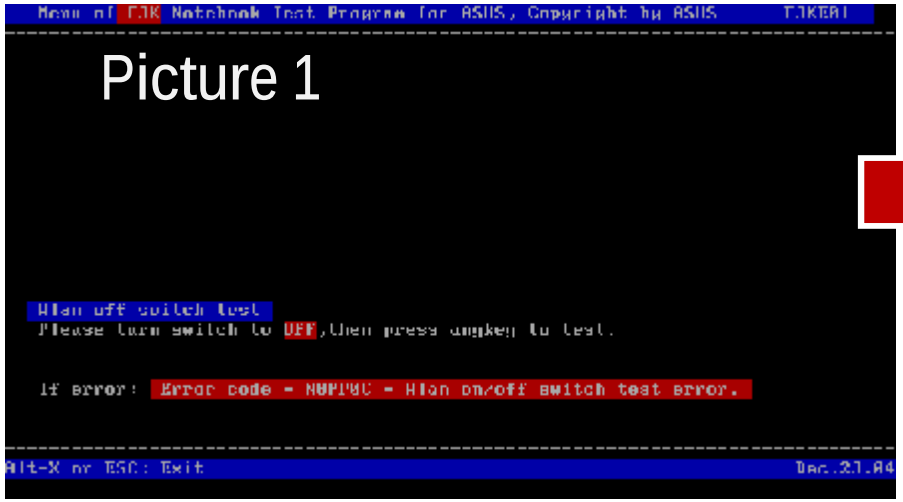
Temperature Test

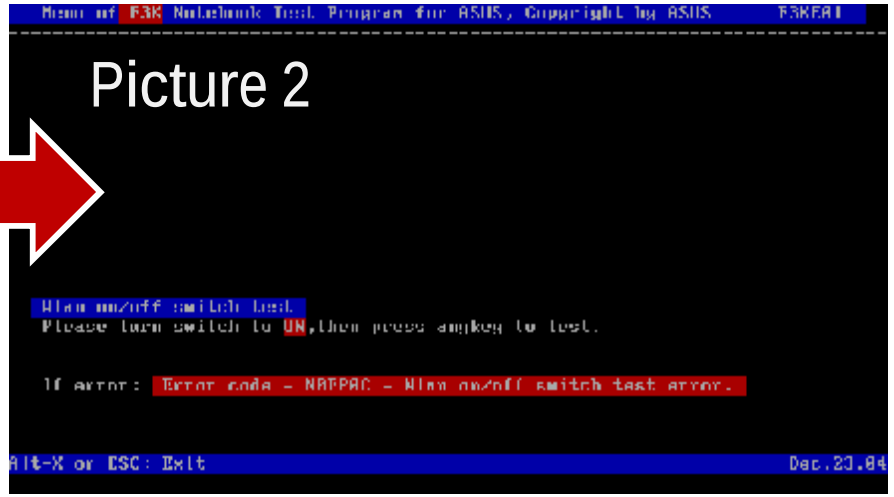
Test fail will show this PIC

8

WLAN OFF/ON

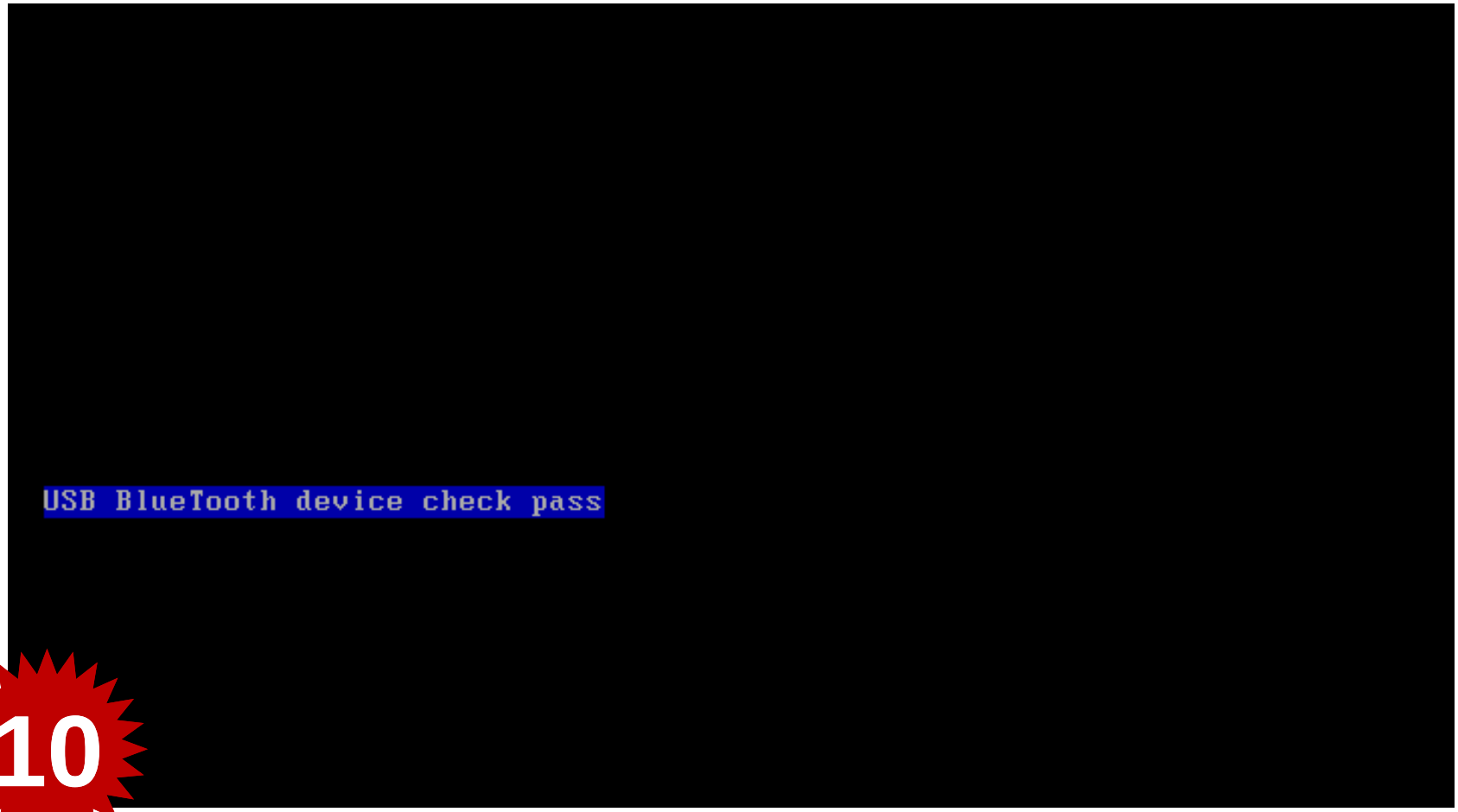
Please turn off/on the WLAN switch





Test fail will show this PIC

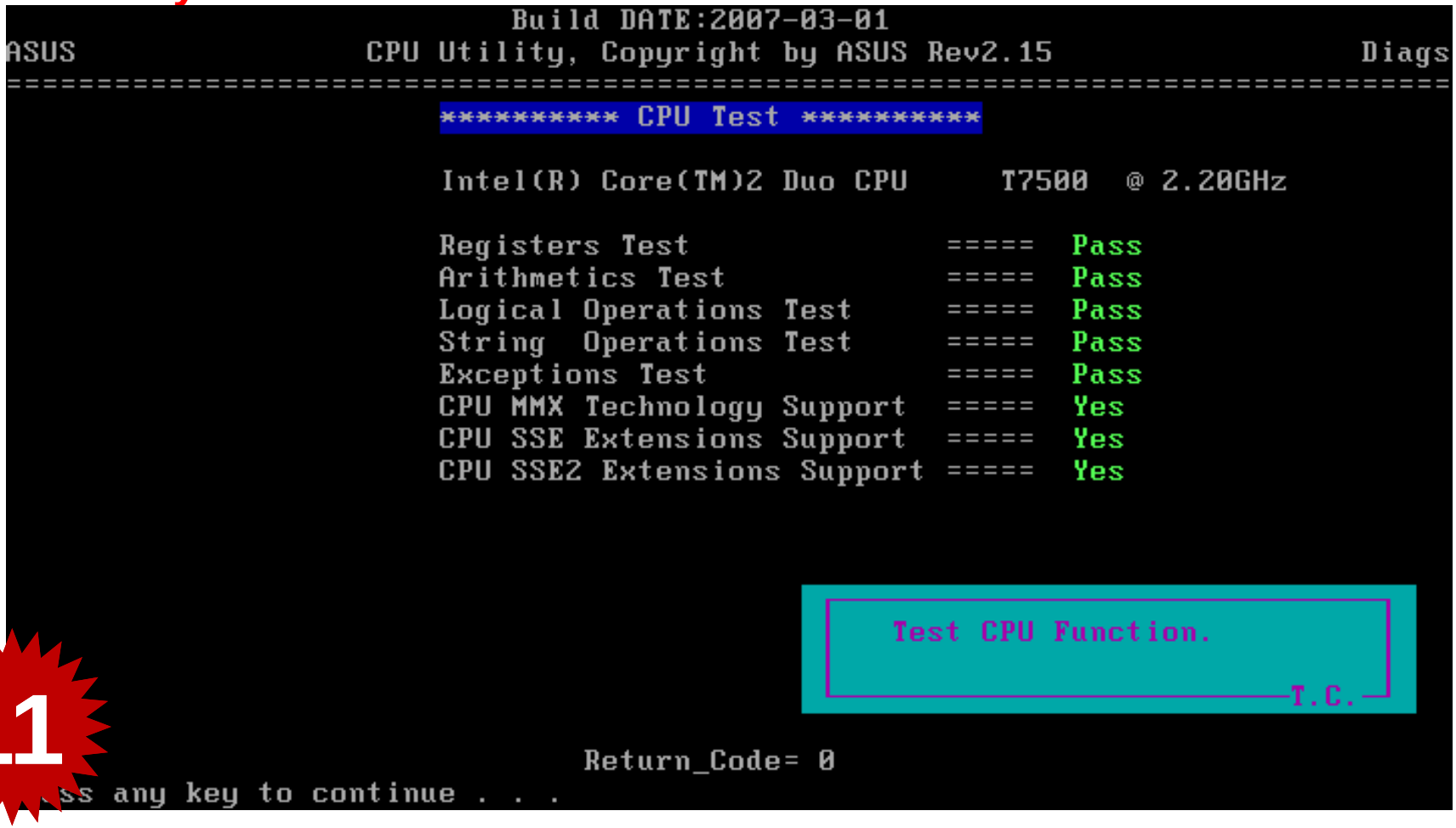
BLUETOOTH



10

MEMSIZE Test

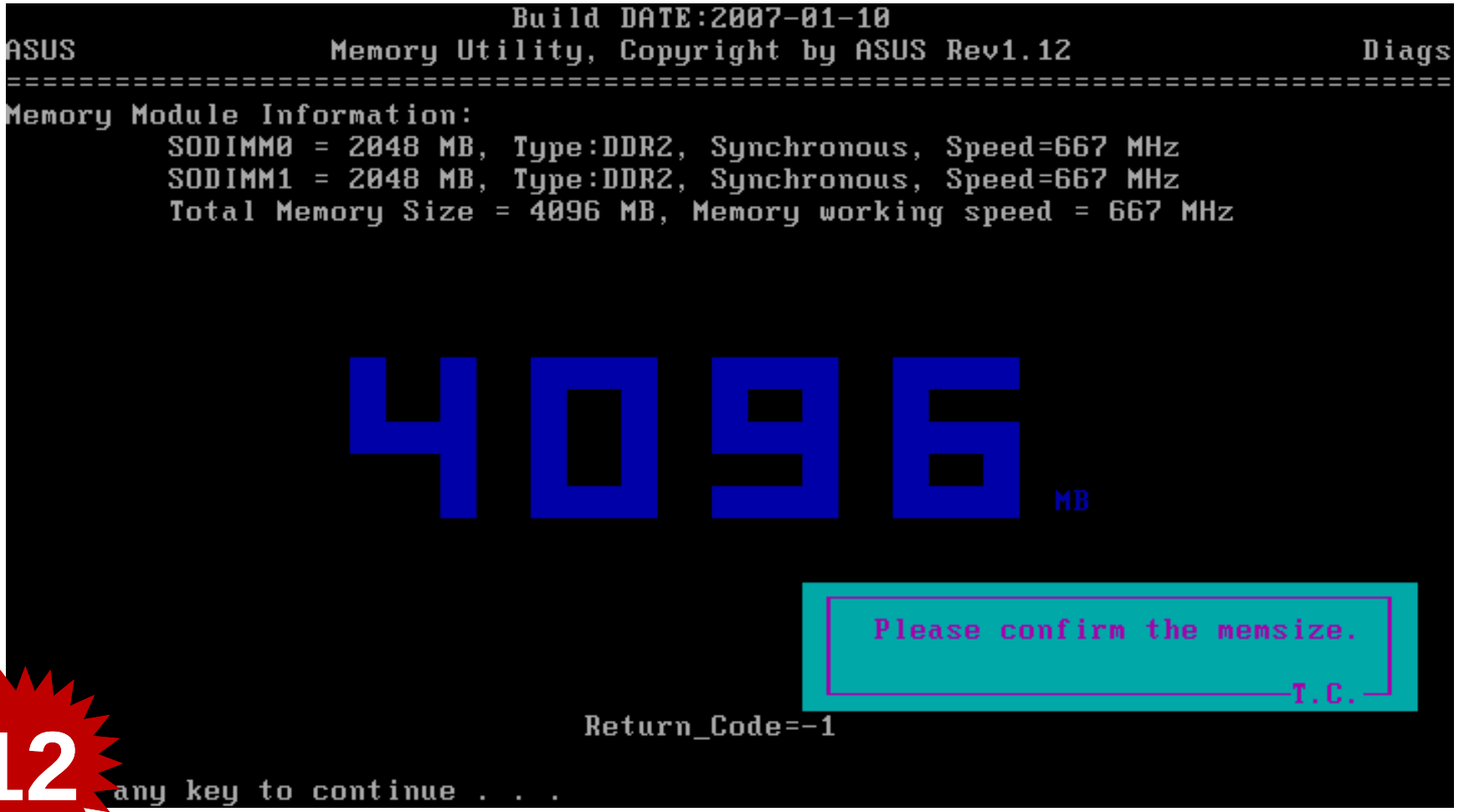
The below pictures shows the information of CPU and system memory to us.



11

MEMSIZE Test

Please confirm the memsize



12

Touchpad Test

When your finger touch the pad and move one direction, the bule sign move the same direction with your finger.

13

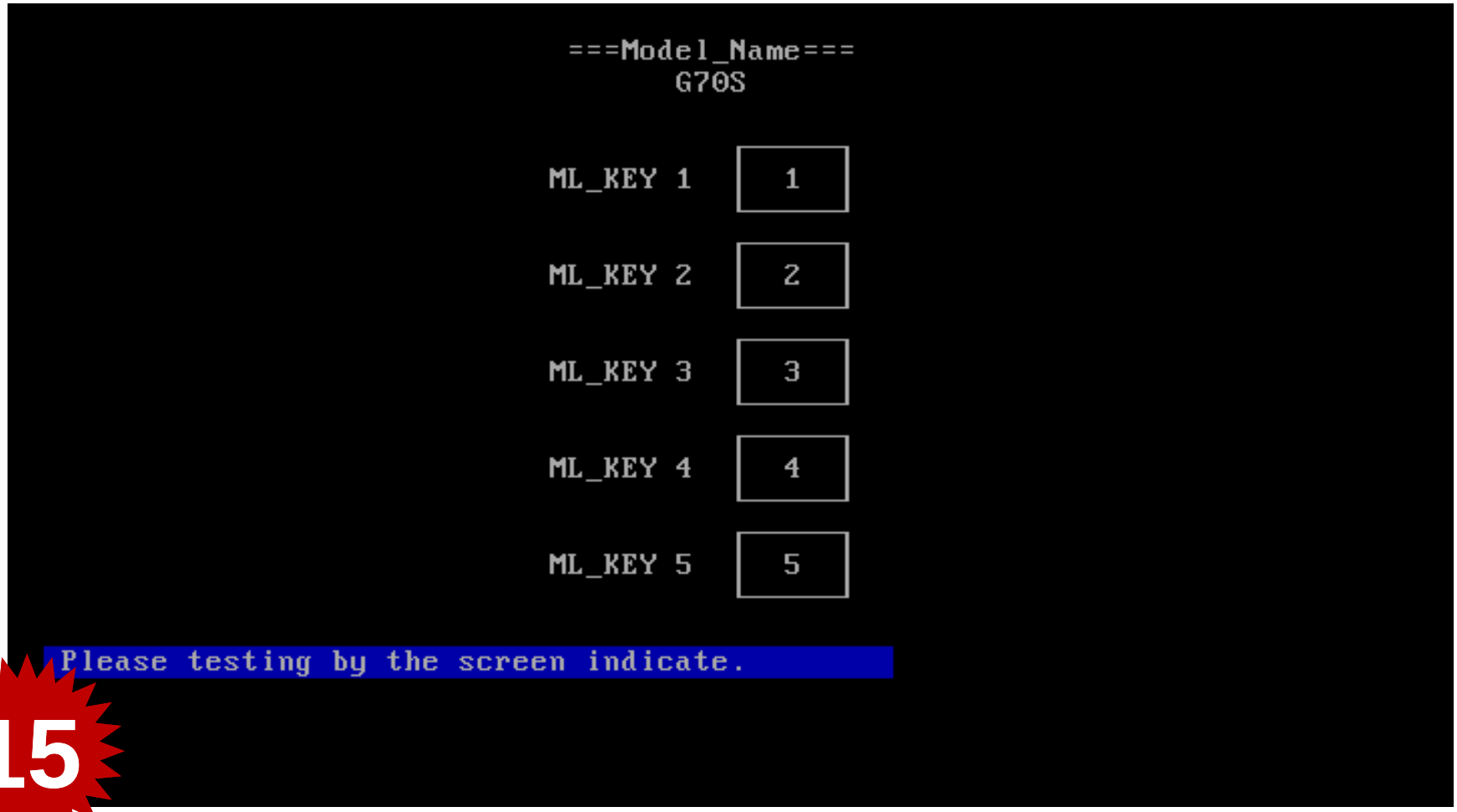
LCDRGB Test

If you find the vertical wave and horizontal wave between the LCD RGB Test, It has problem.

14

INSTANT Test

Press the button 1 , the grids will change color.
Please according to the words in below picture.



15

KEYBOARD Test

16

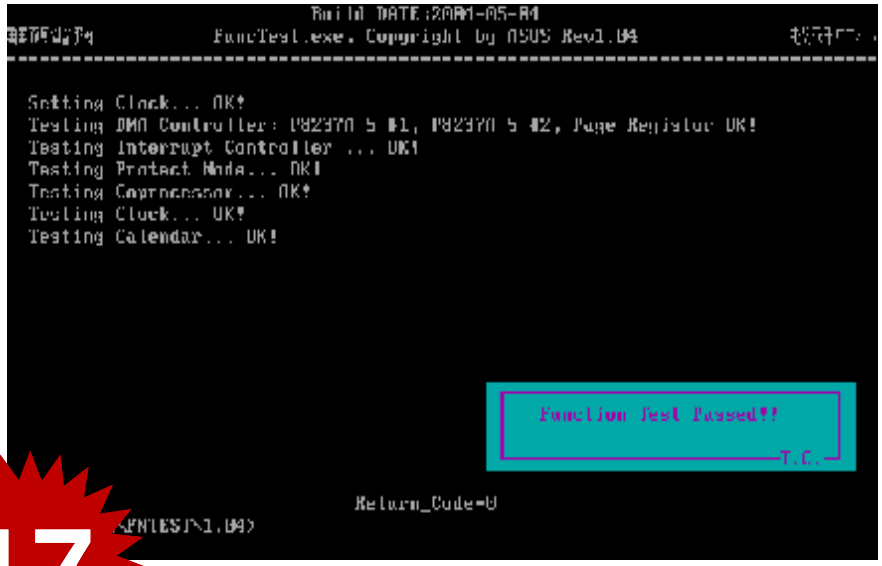
Choose one language for the Keyboard, and then into next screen.

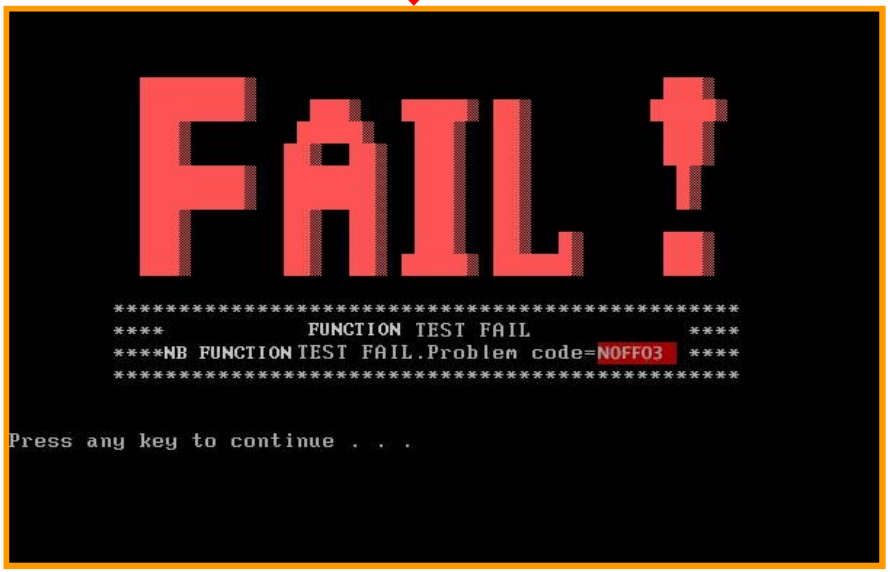
Please check the keyboard function. Press all the key at the keyboard. then the program can exit and continue.
If any key doesn't change to Blue color, it means the test program is fail.

Press Fn + DEL key to test

Function Test

Test fail will show this PIC

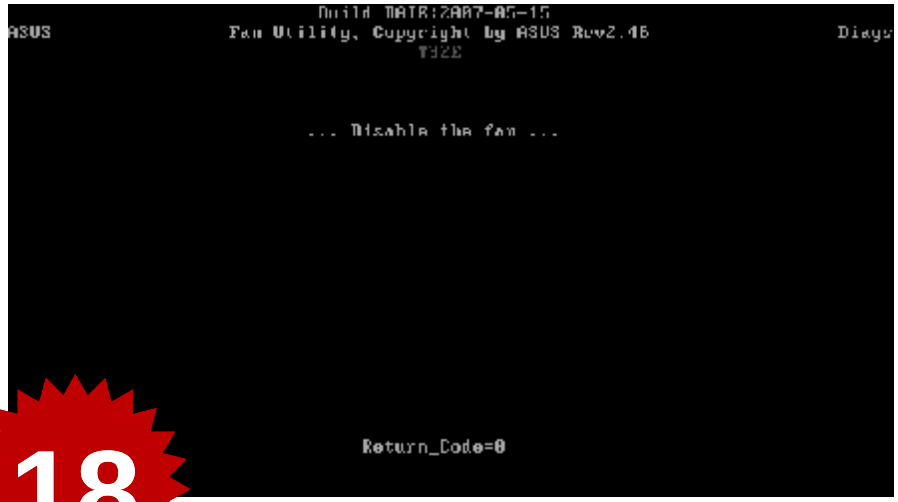




17

FAN OFF/ON Test

Unable to wheel or Speed Error on FAN

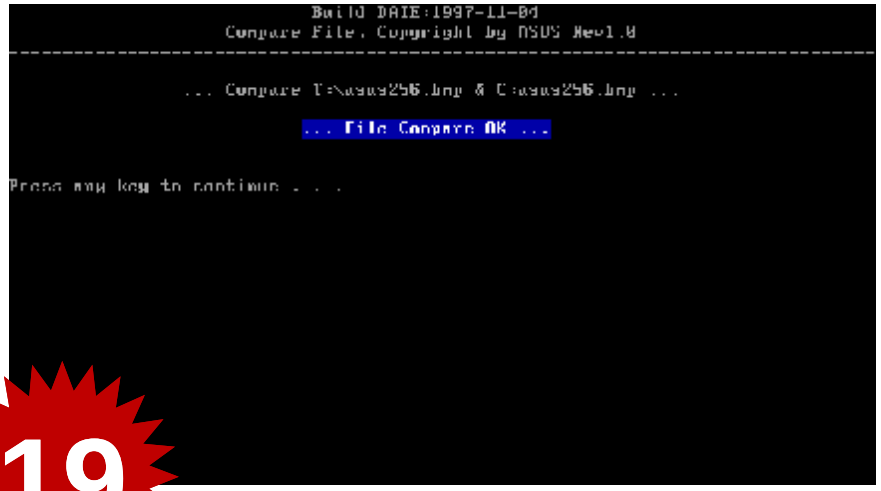


Test fail will show this PIC

18

CD ROM Test

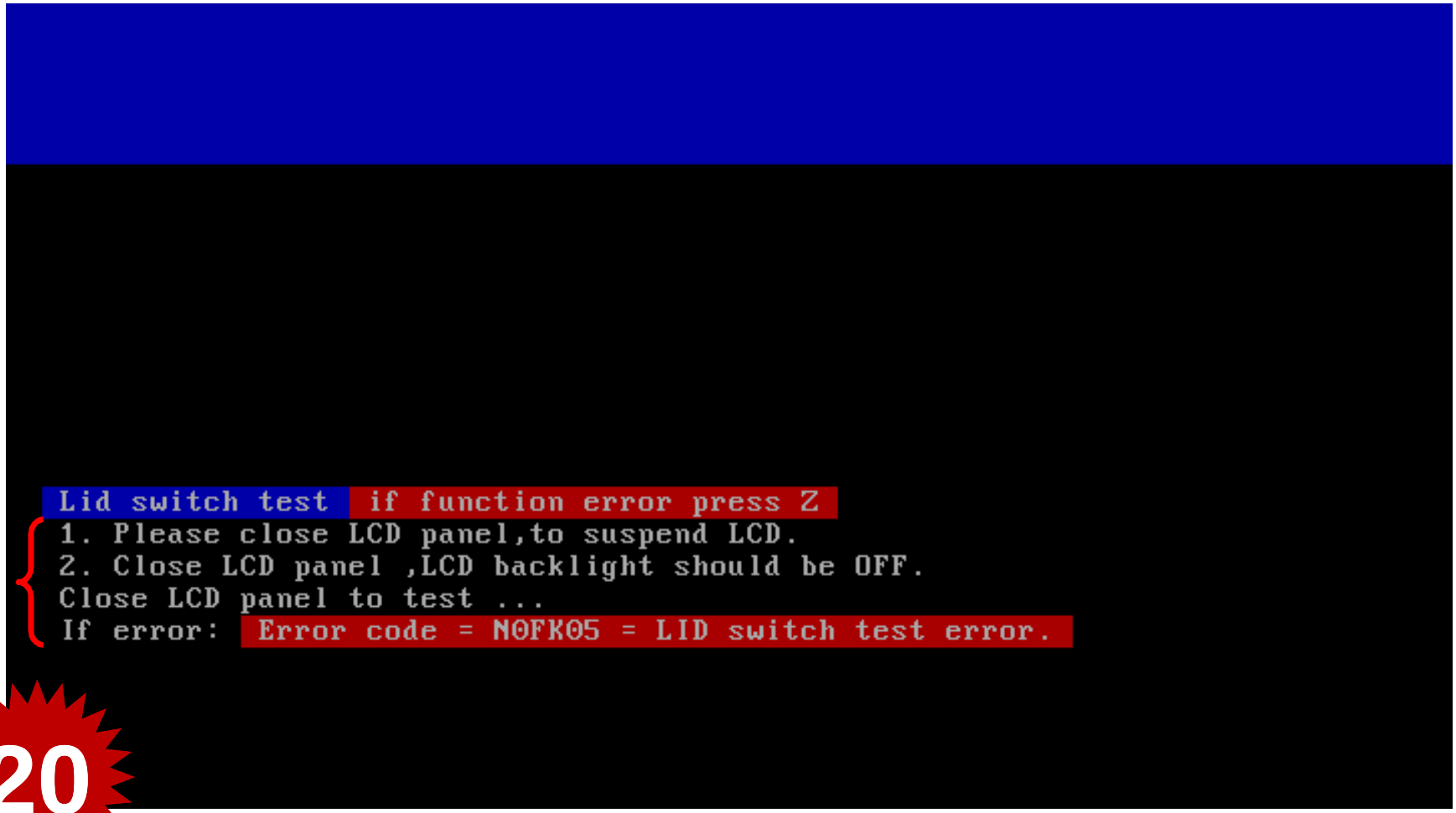
Test fail will show this PIC



19

LID Switch Test

Close LID panel to test.



20

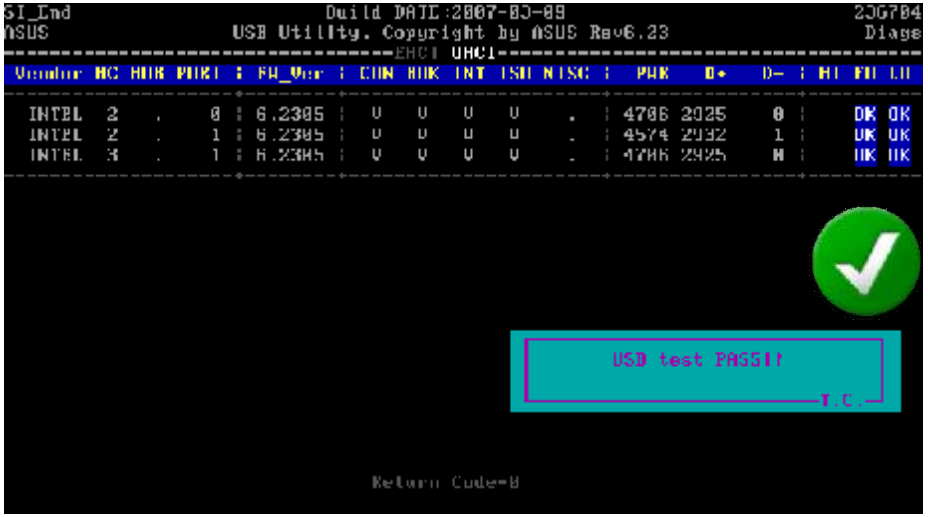
BATTERY CAPACITY Test

Check the battery capacity.

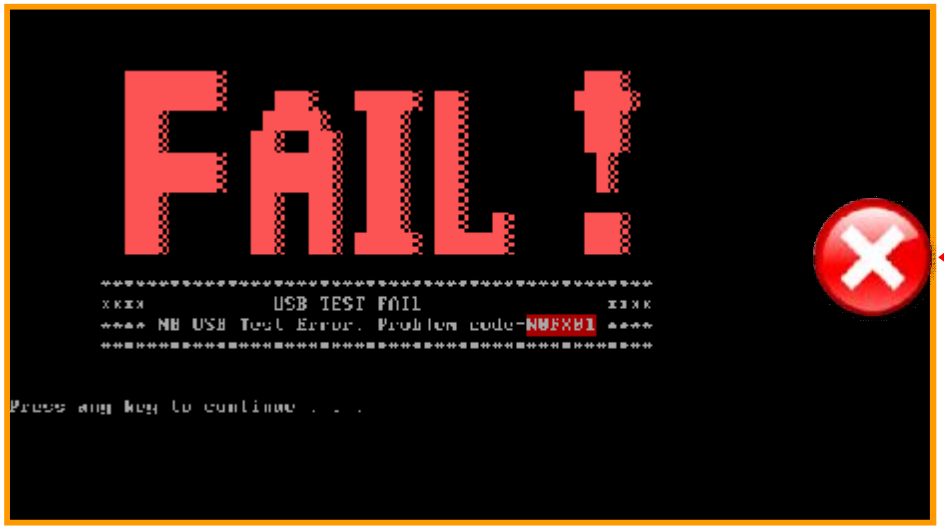
21

Test fail will show this PIC

USB Test



22



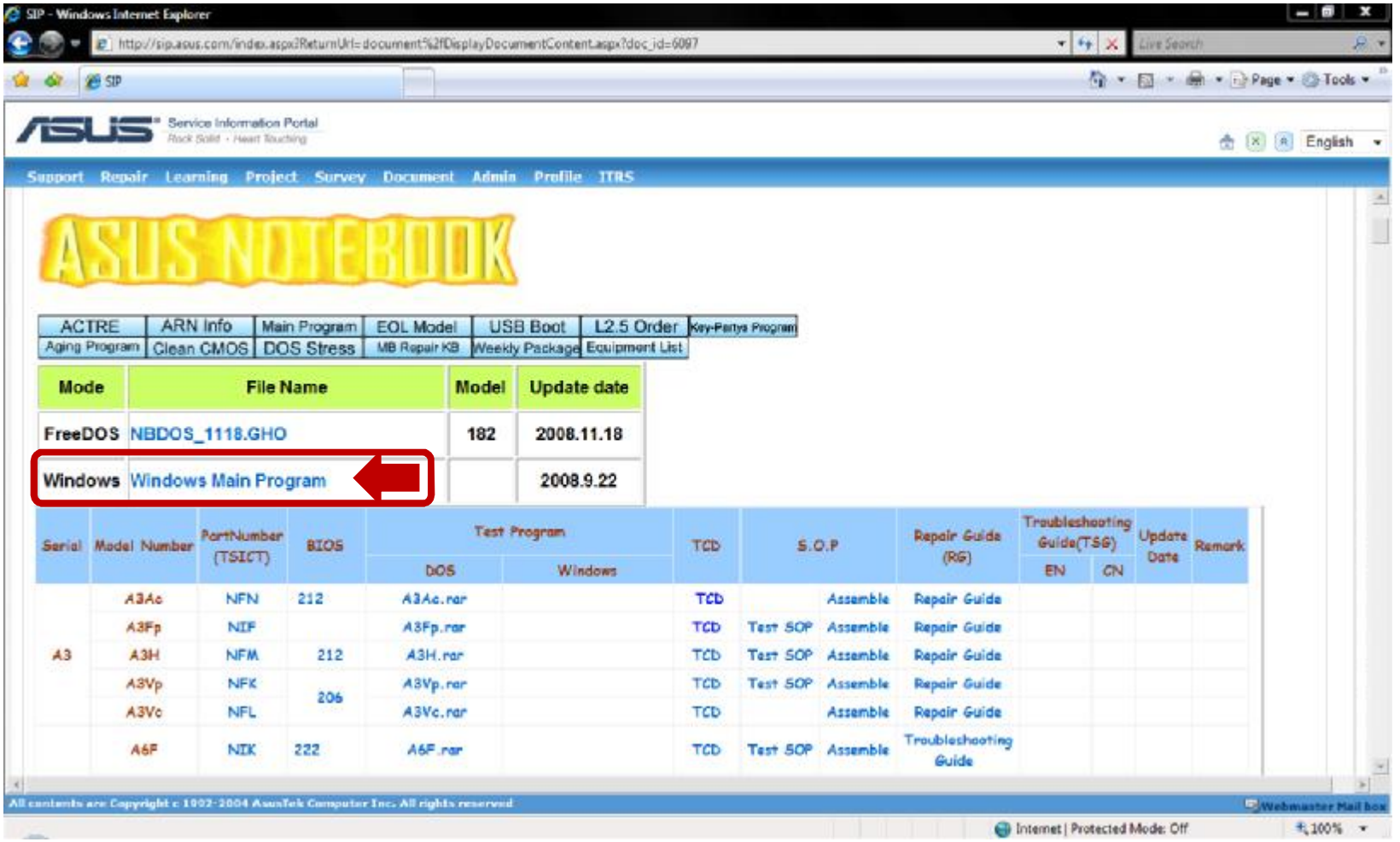
Test fail will this picture.

Chapter 8

Windows Testing Program

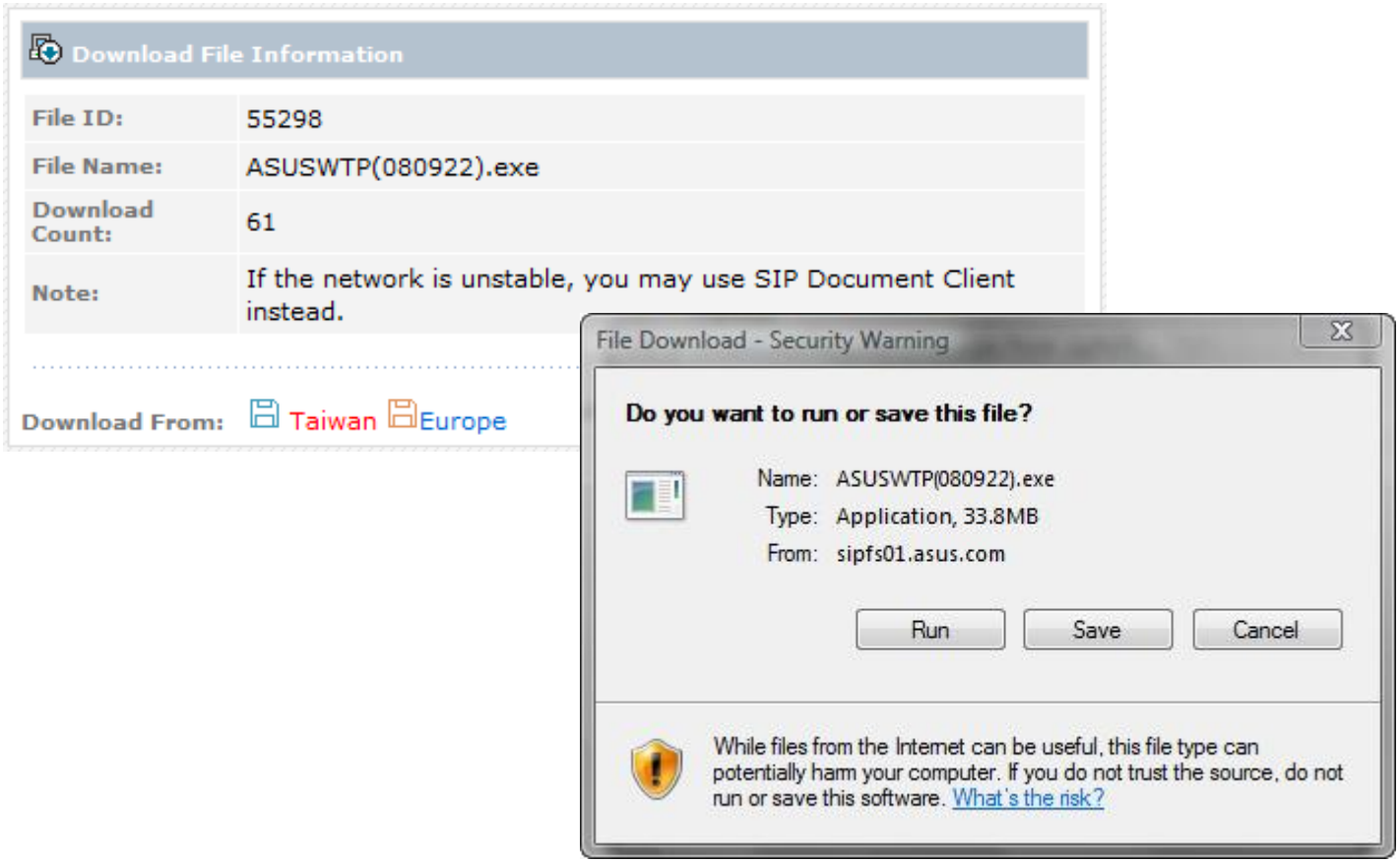
Install WTP

Step 1: Download **Windows Main Program** from SIP.



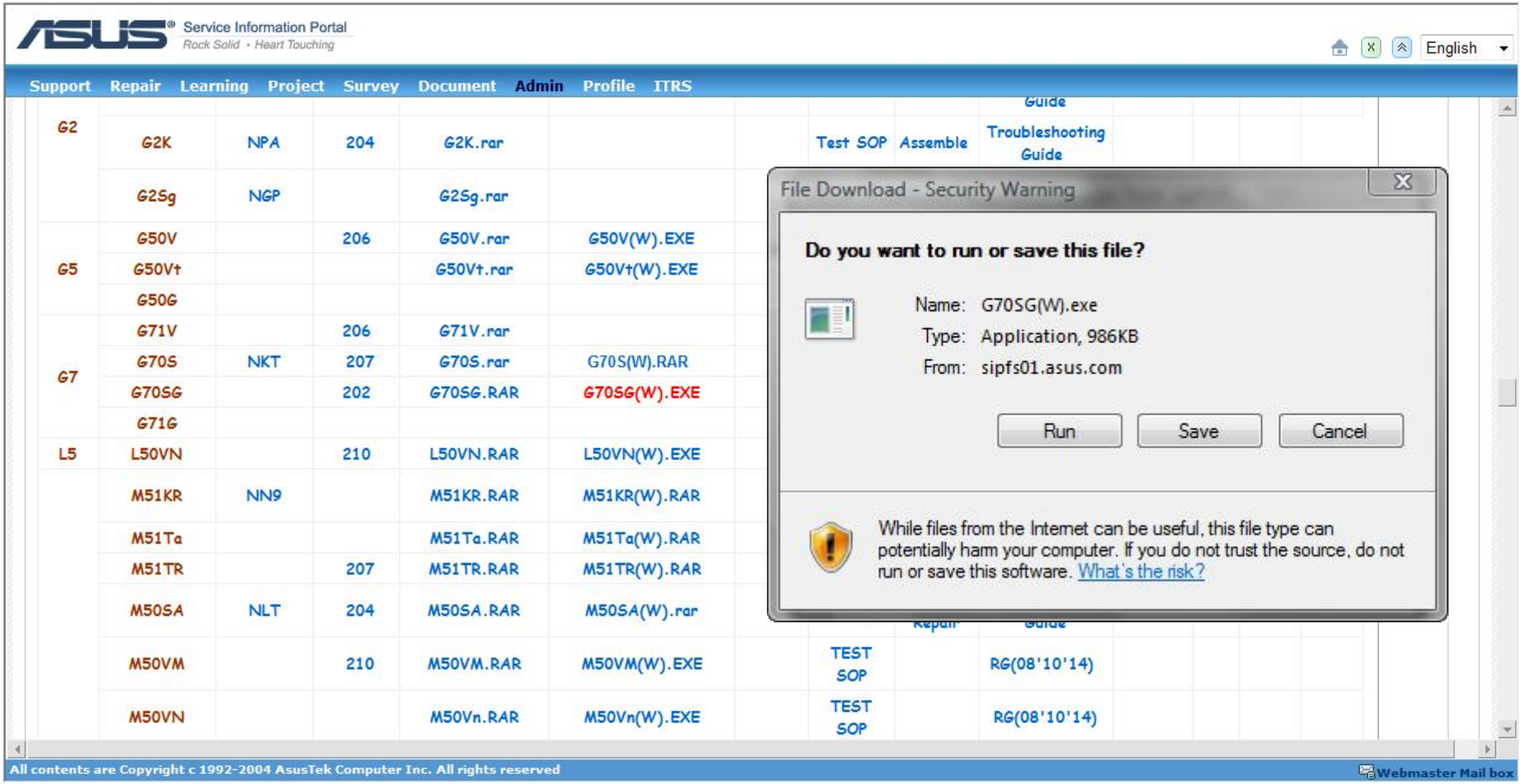
Install WTP

Step 2: Save the **ASUSWTP.exe** test program.



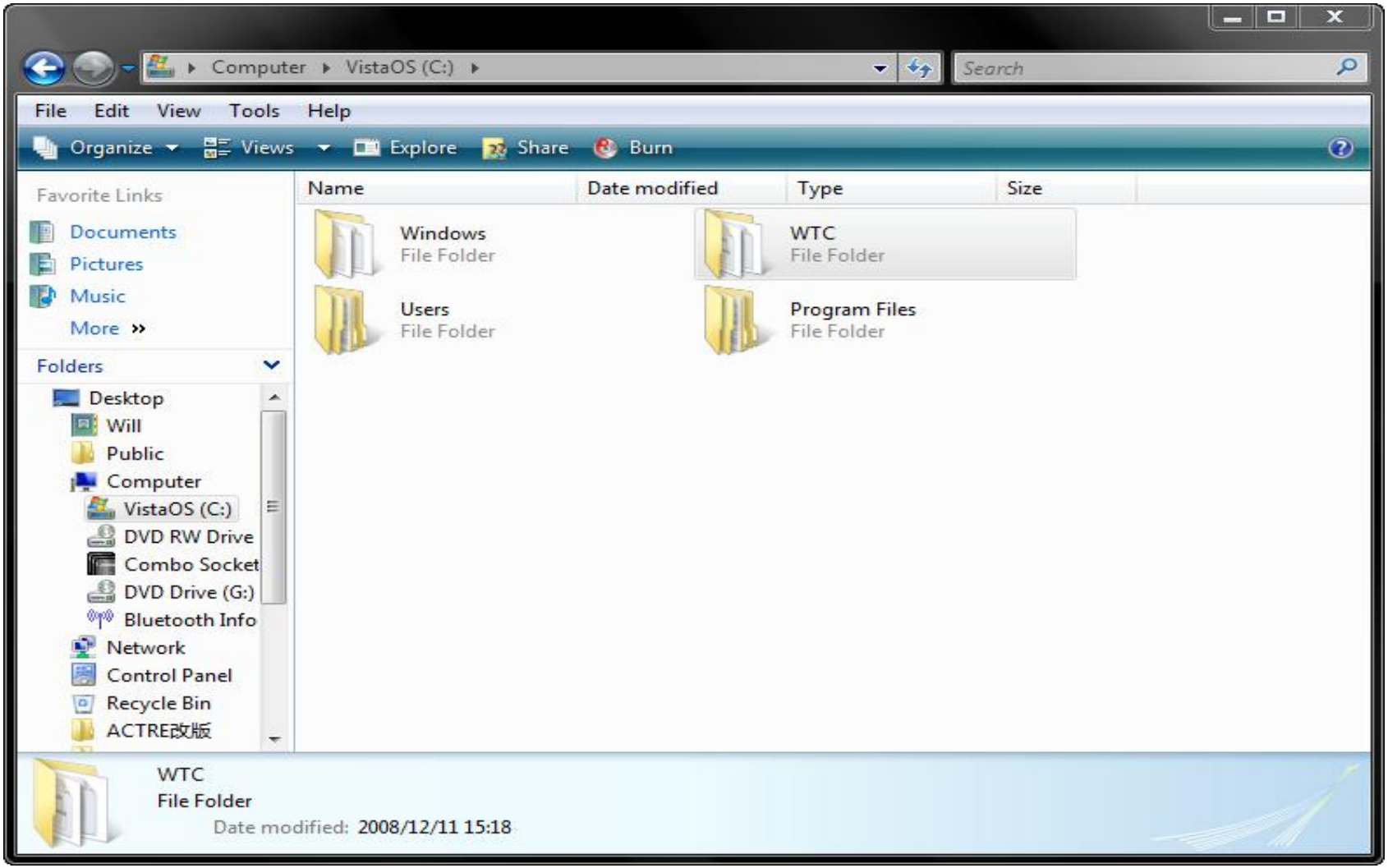
Install WTP

Step 3: Download the relevant **Test Program** from SIP.



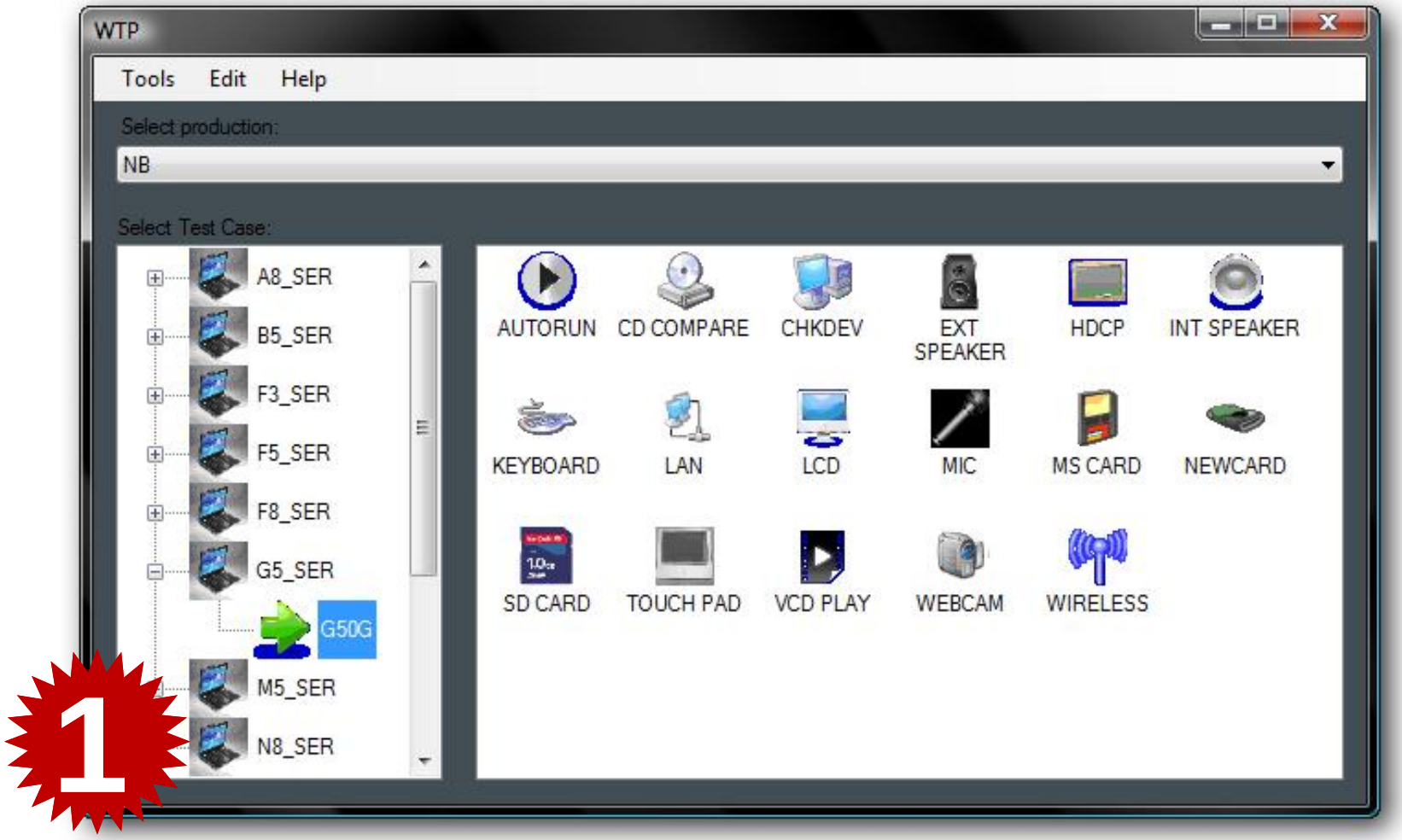
Install WTP

Step 4: Extract the file .



WTP Main Menu

Step 1: Run ASUSWTP.exe on desktop
Step 2: Choose Model name and running test program.

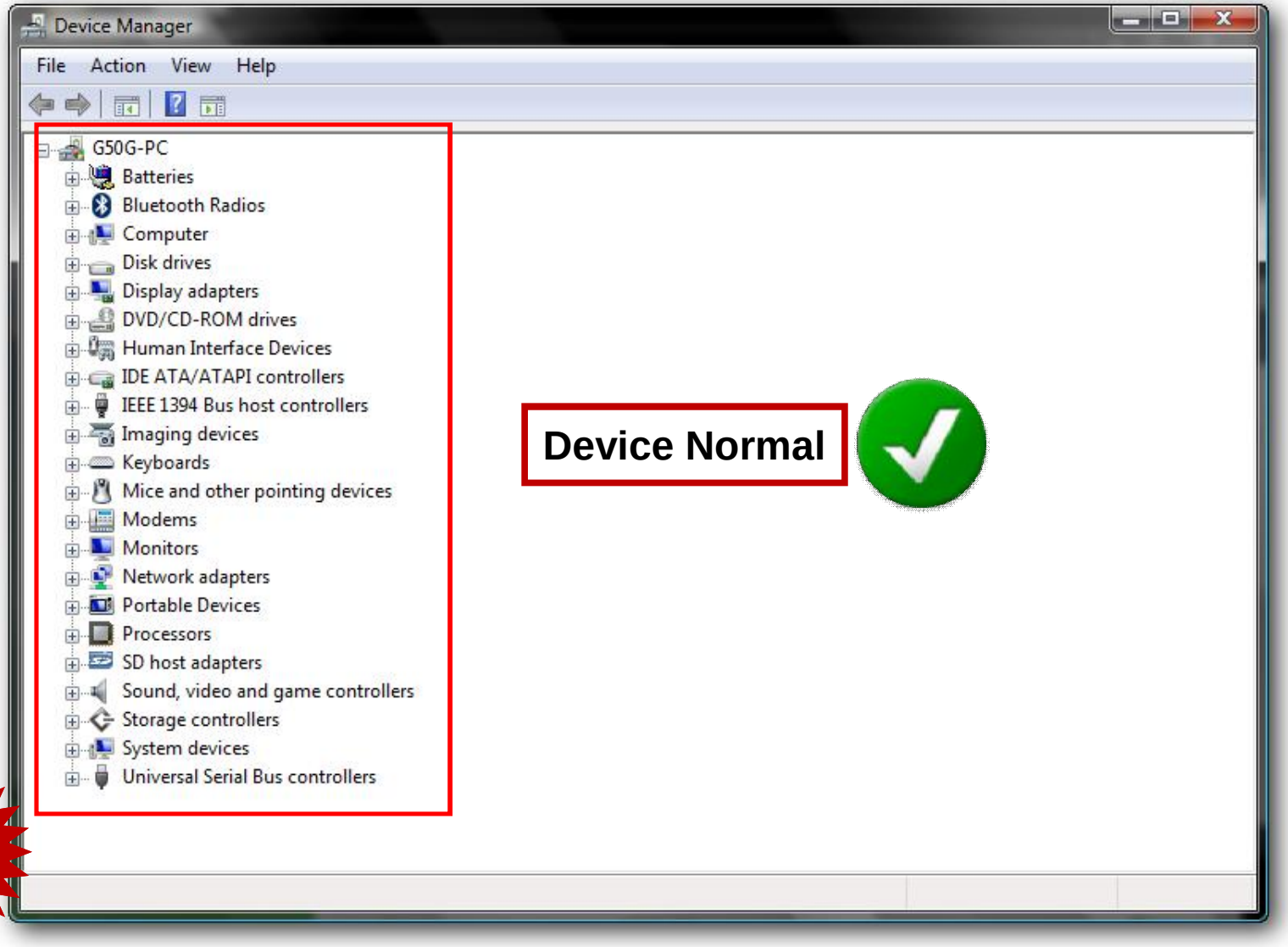


CHECK DEVICE

1.Check Machine all device is ok?
2.Check software and hardware is normal?

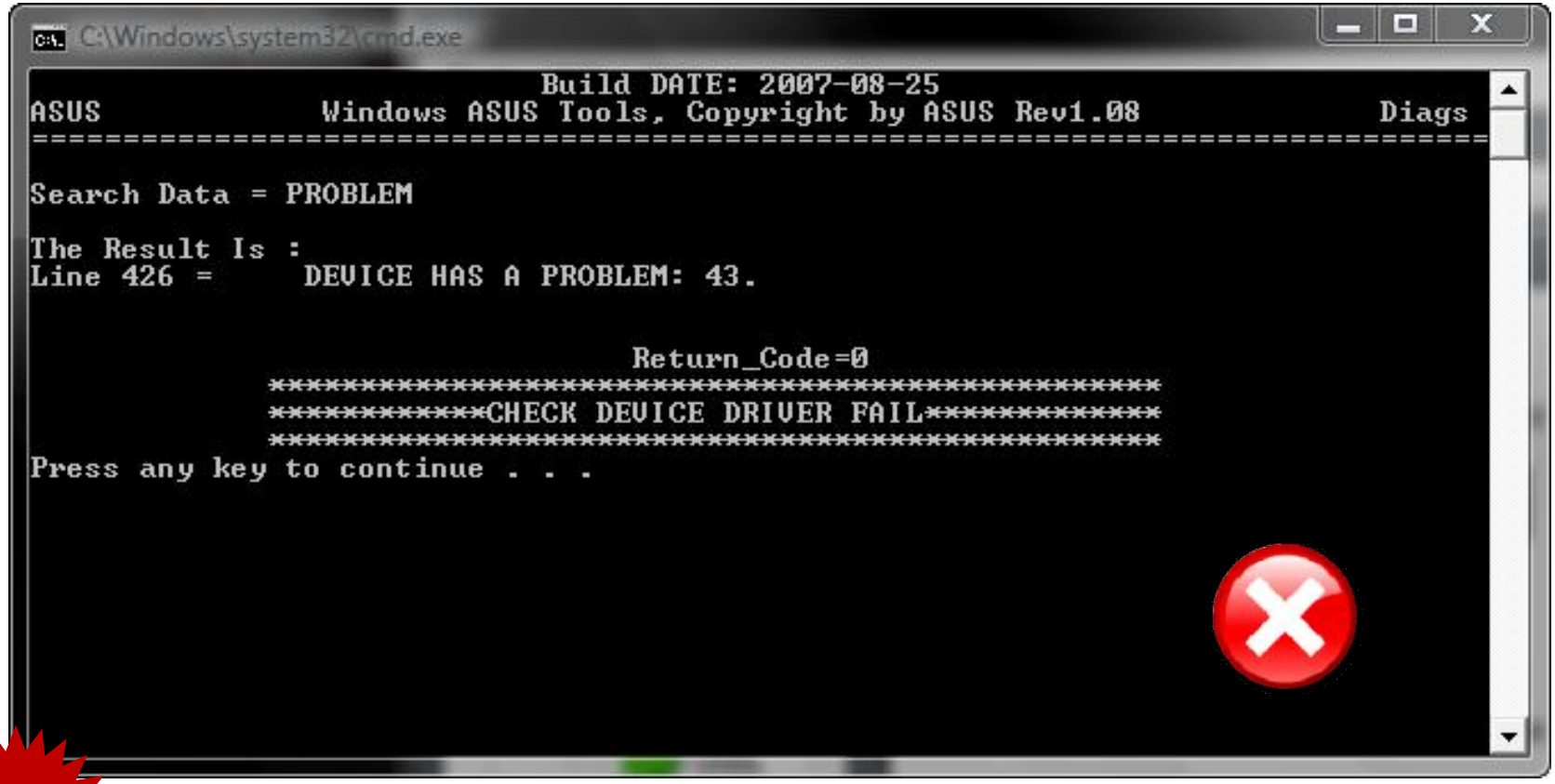
2.1

CHECK DEVICE



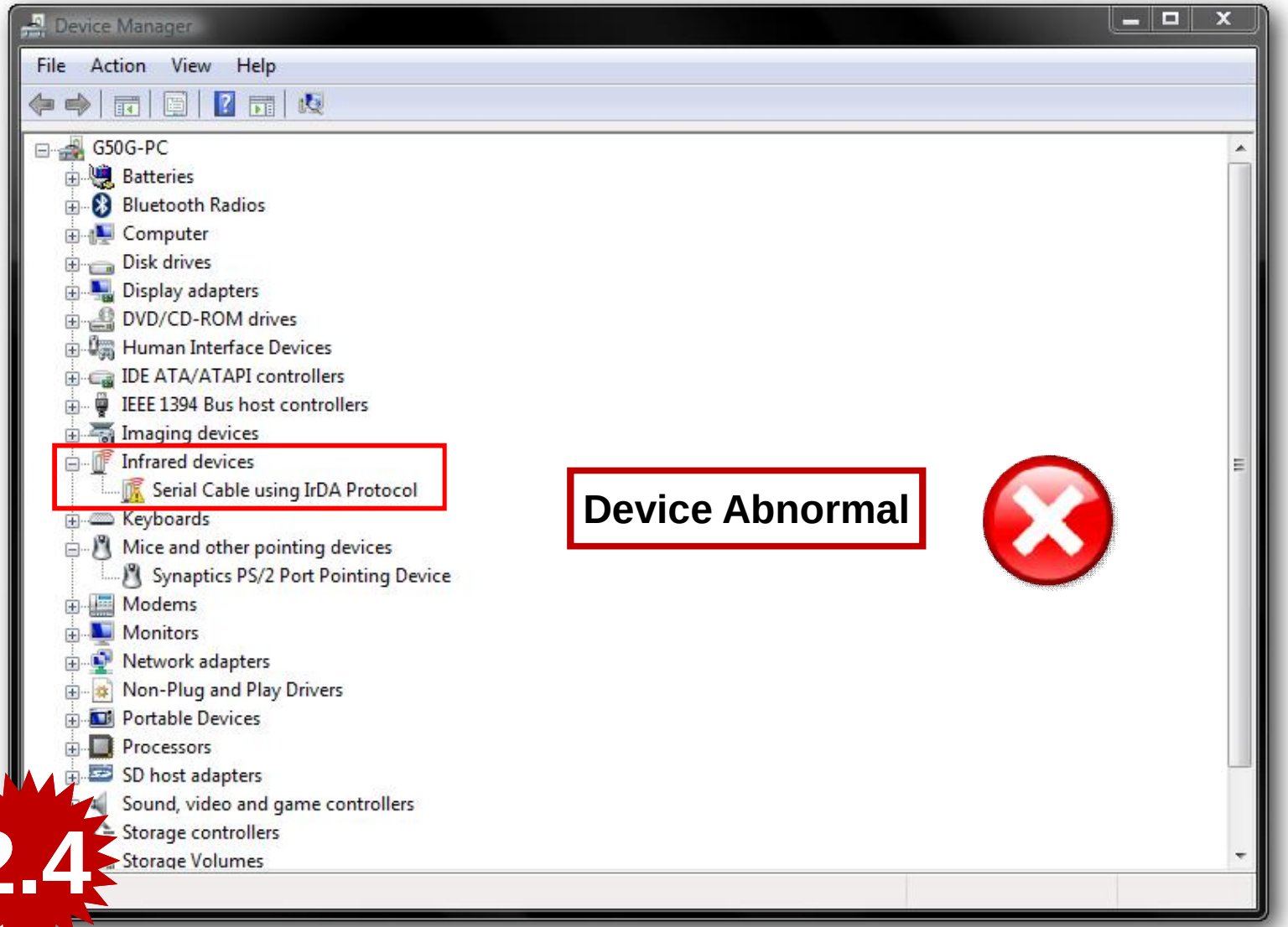
2.2

CHECK DEVICE



2.3

CHECK DEVICE



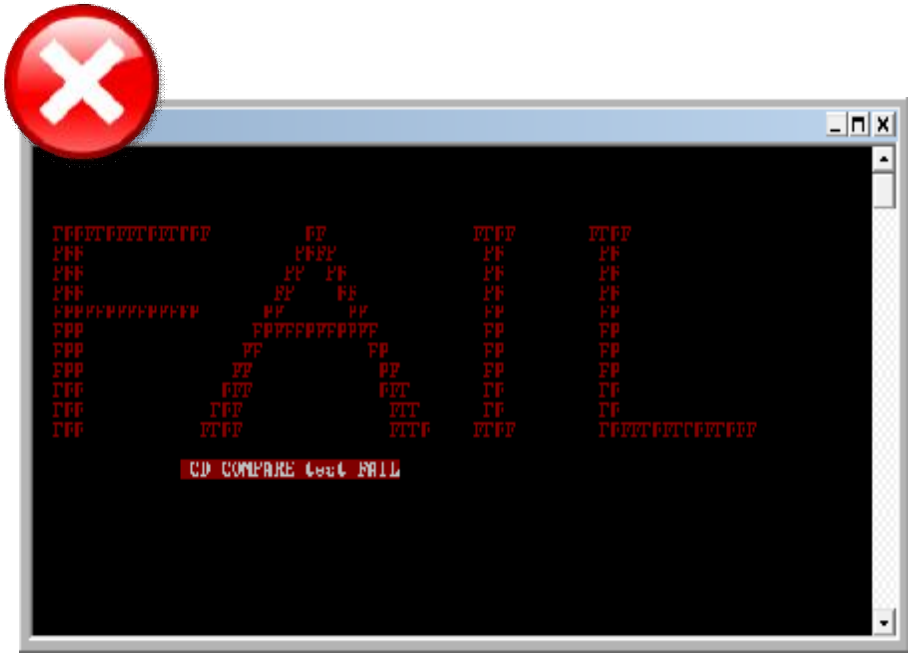
2.4

CD COMPARE

1. Please insert a DVD-RW disc into ODD

3.1

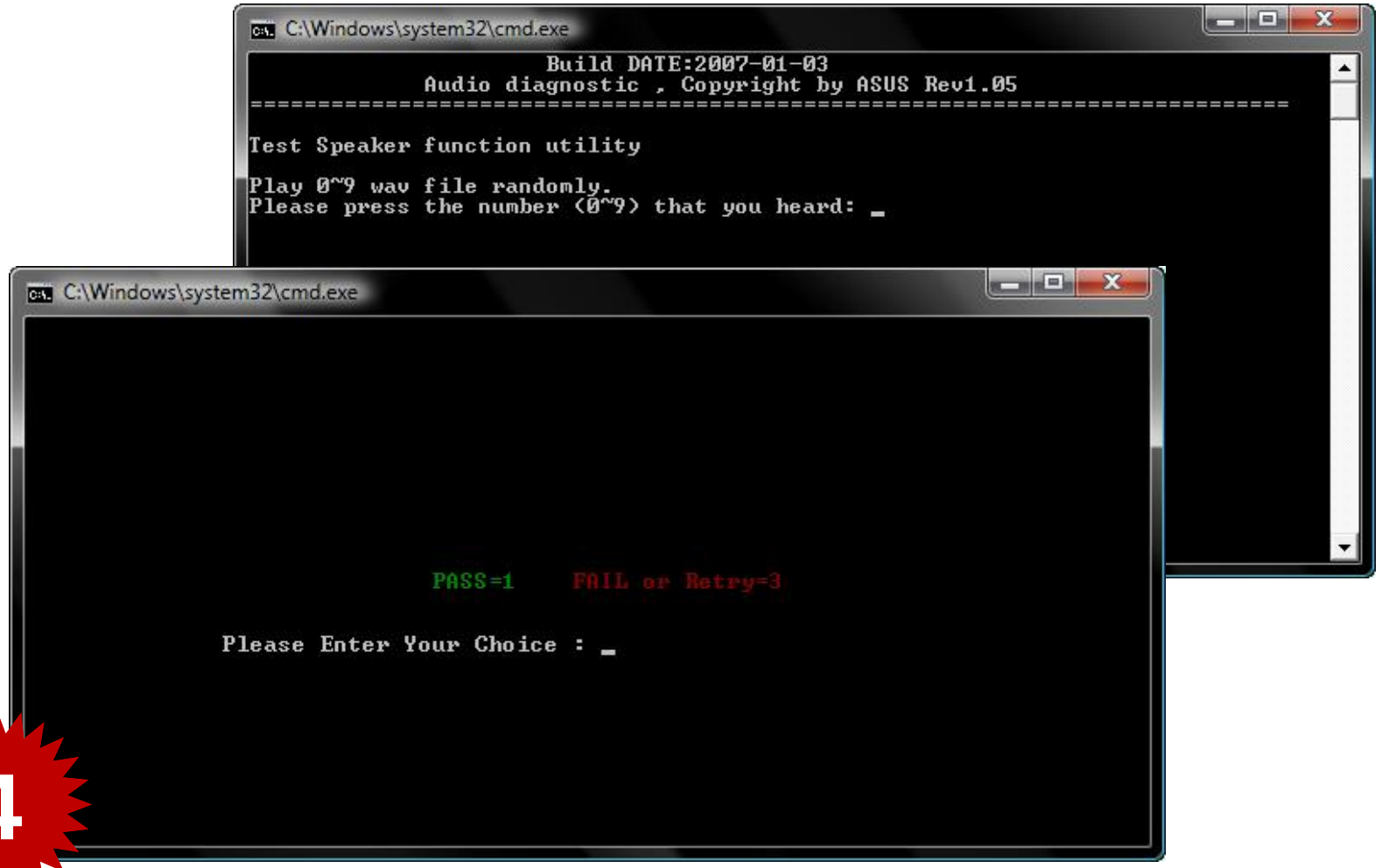
CD COMPARE



3.2

EXT/INT SPEAKER Test

- Press the number that you heard to test speaker function.



4

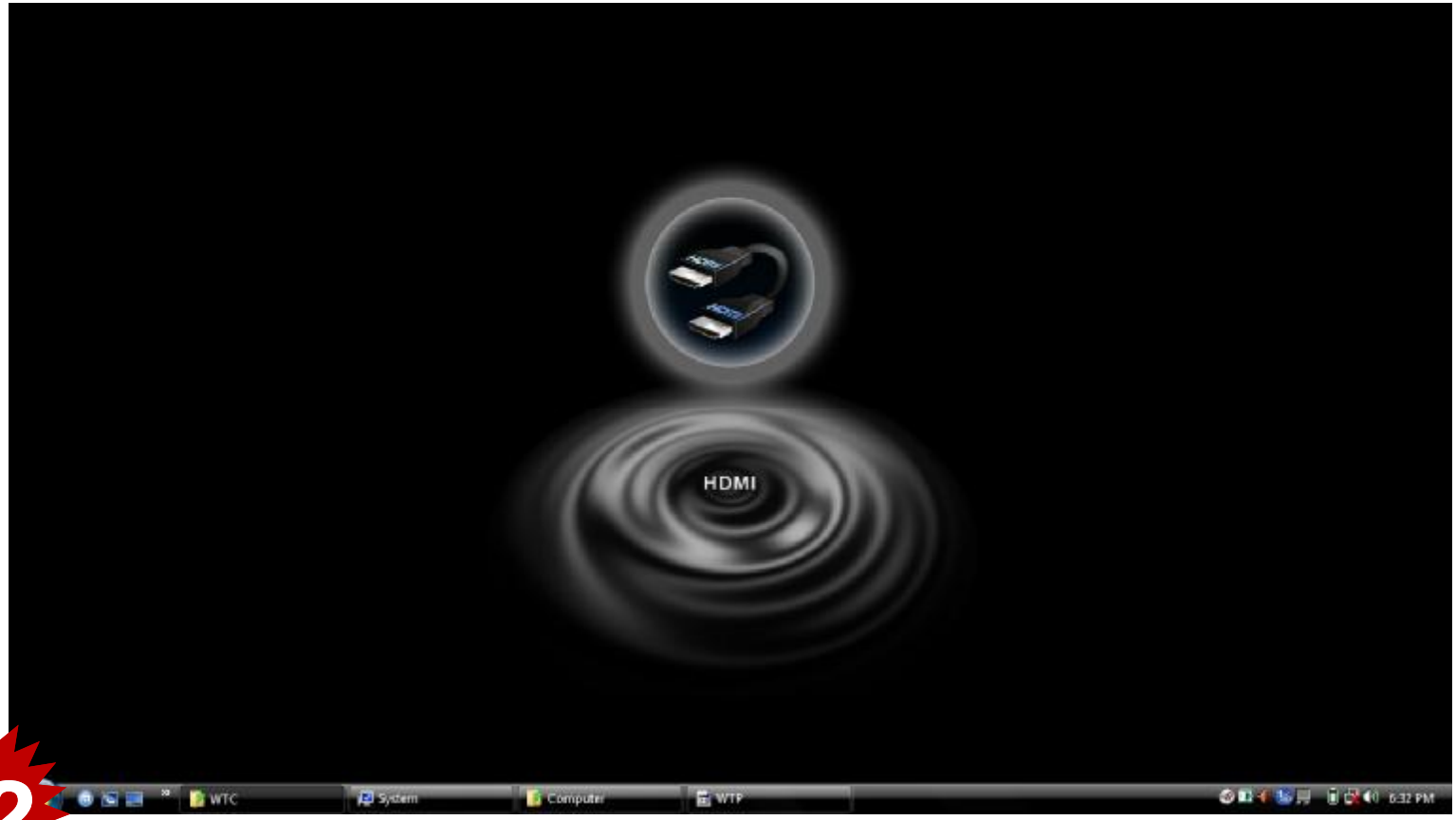
HDCP Test

- Connect a monitor to notebook by a HDMI cable, the monitor must support HDCP.

5.1

HDCP Test

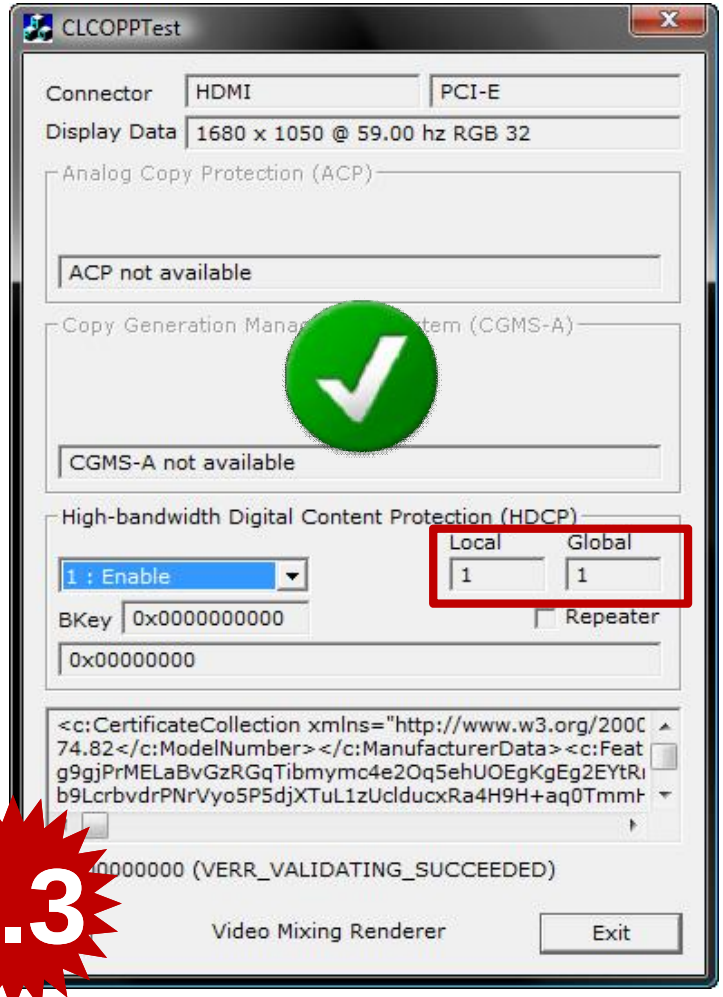
- Press “Fn+F8” to select the **“HDMI ONLY”** display

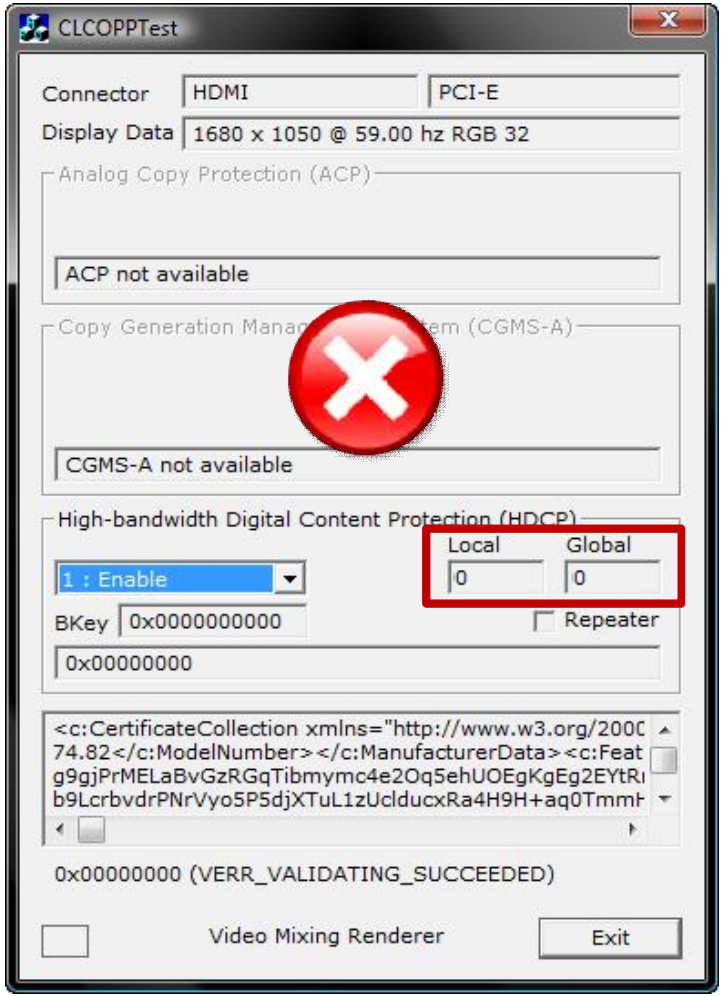


5.2

HDCP Test

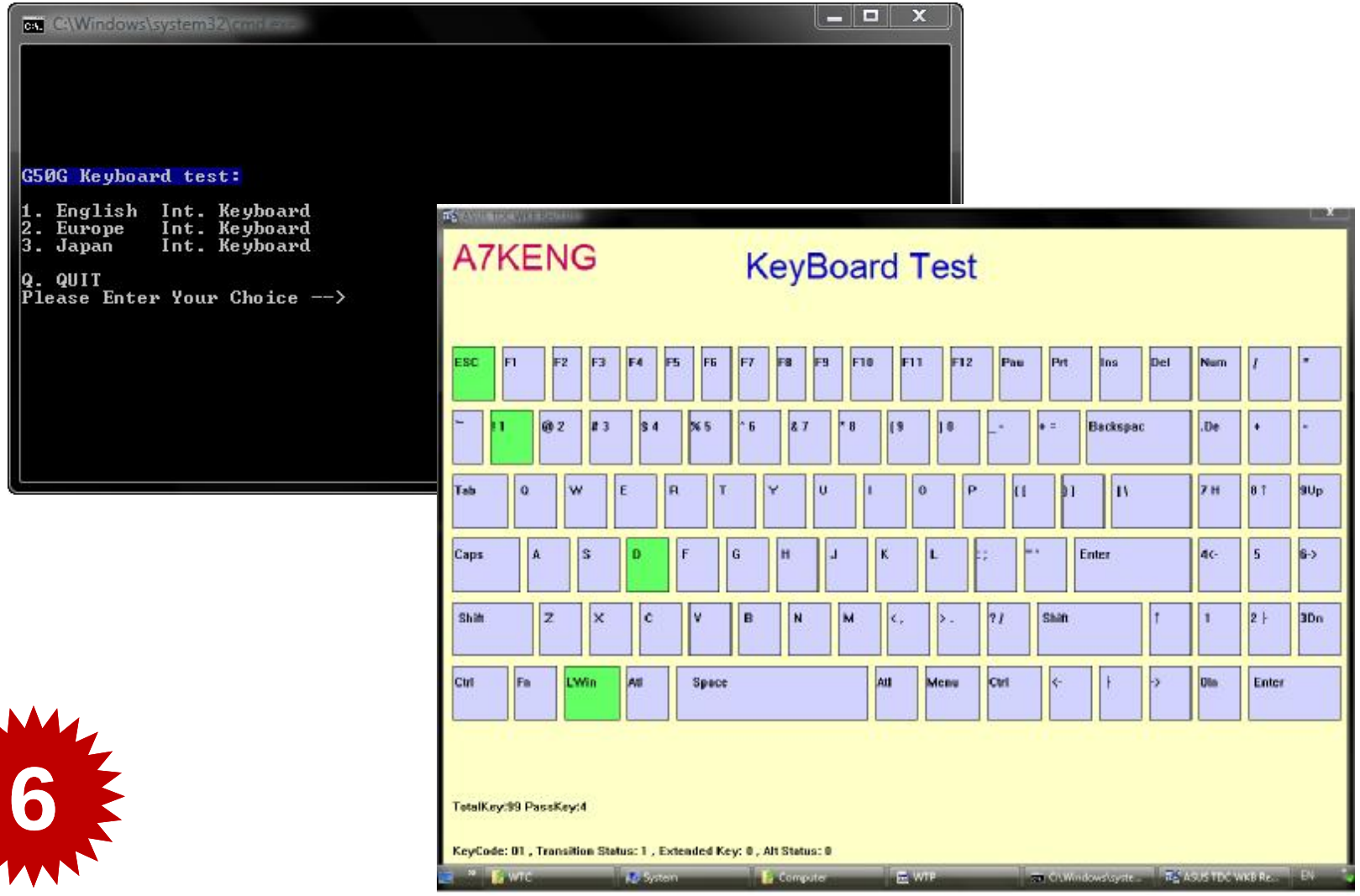
- Select “**1: Enable**”, Local & Global changed to **1**, the model’s HDCP function is normal.
- Select “**1: Enable**”, Local & Global doesn’t change, the model’s HDCP function is abnormal.





5.3

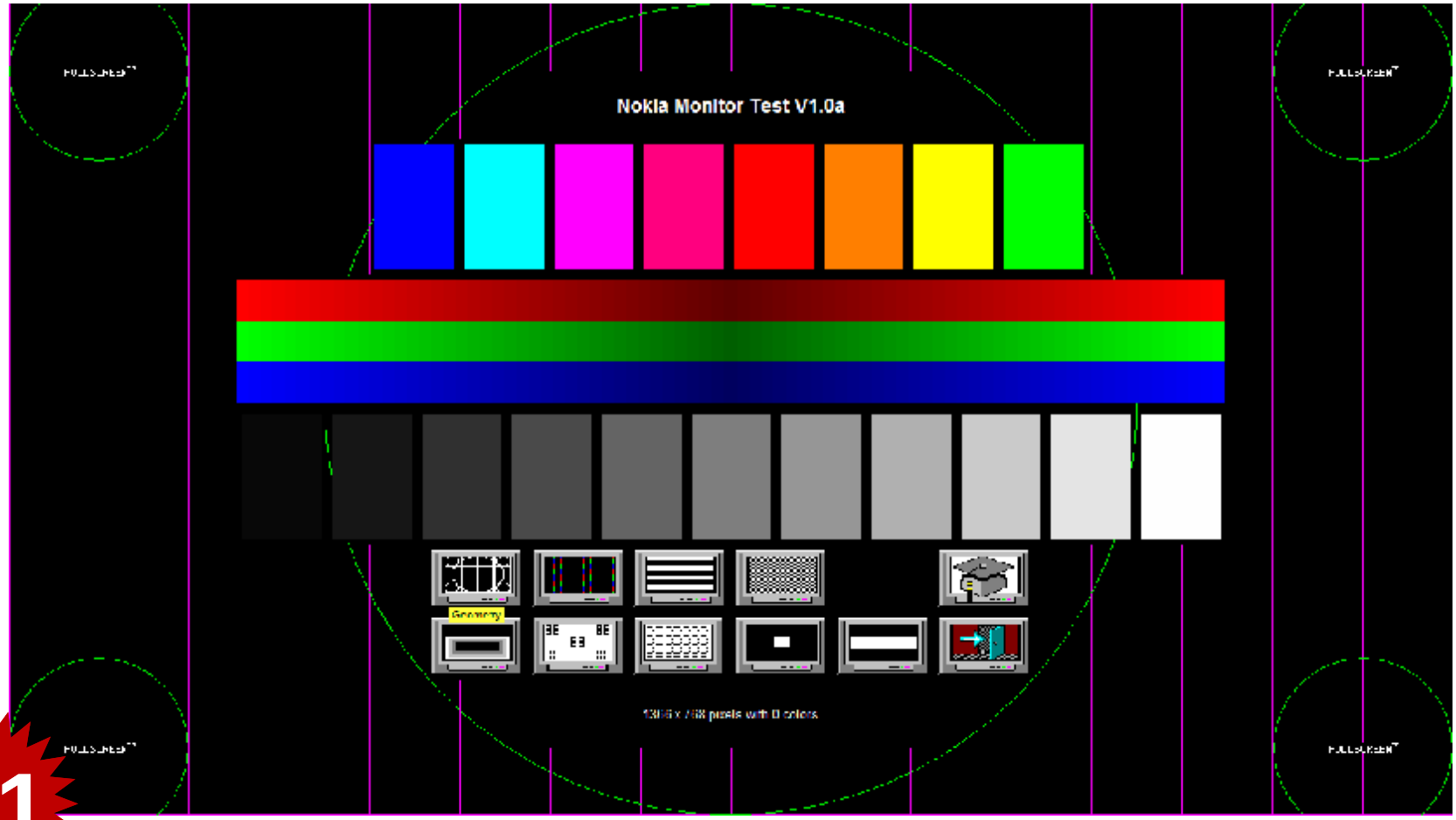
KEYBOARD Test



6

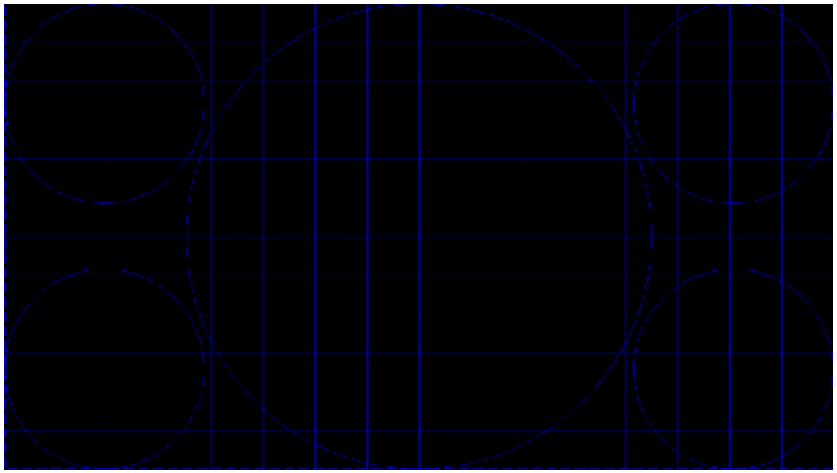
LCD Test

Run Nokia Monitor Test V1.0a to test.

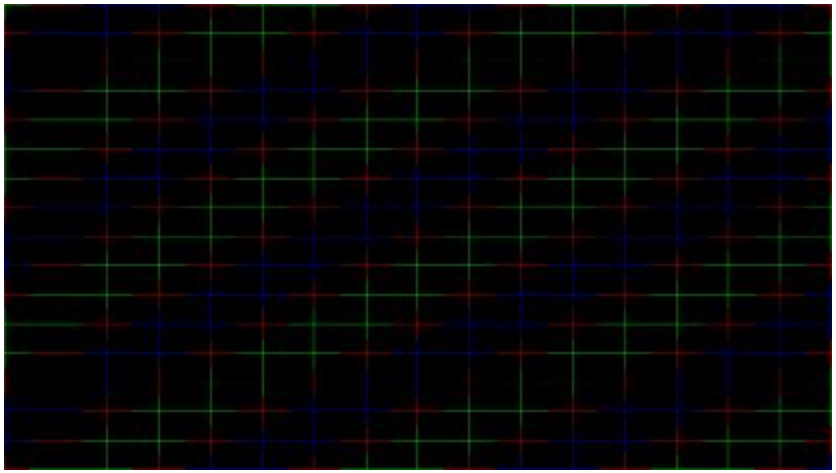


7.1

LCD Test



Geometry



Convergence

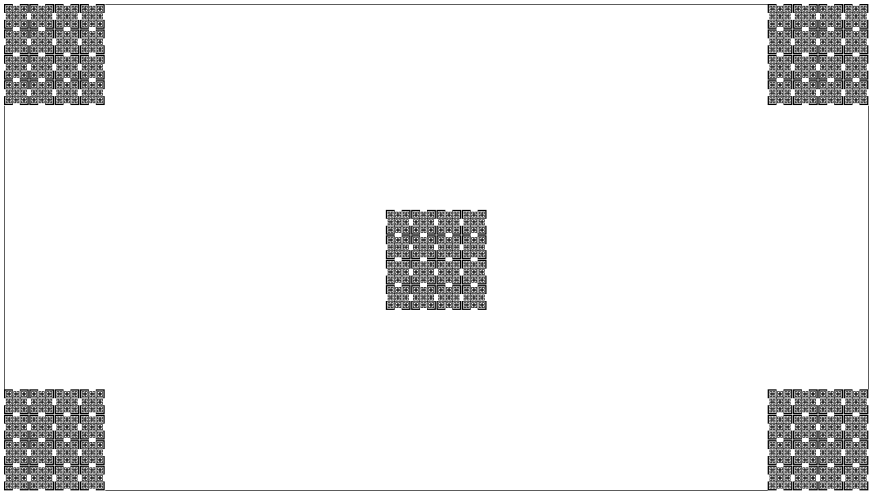
Screen Regulation

Screen Regulation

7.2

LCD Test

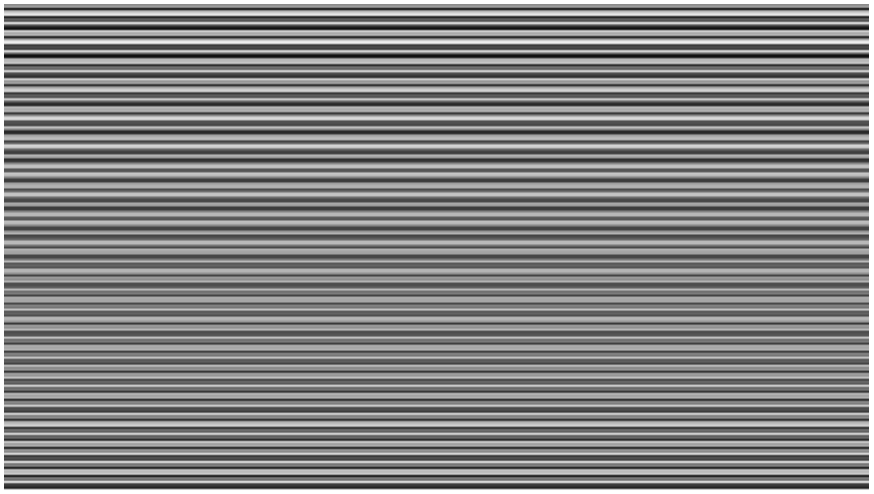
Colour



Focus

7.3

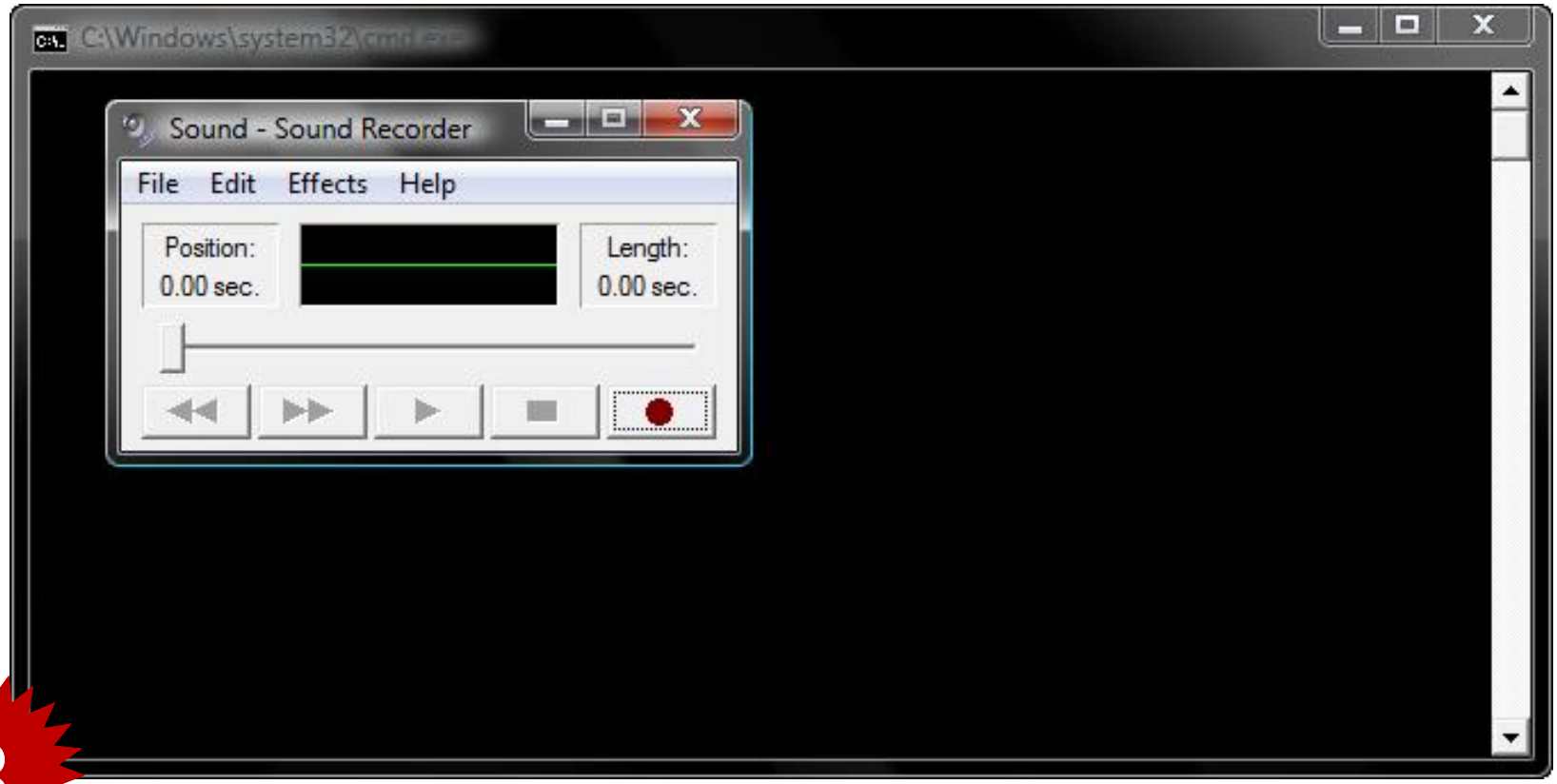
Brightness and Contrast



Resolution

MIC Test

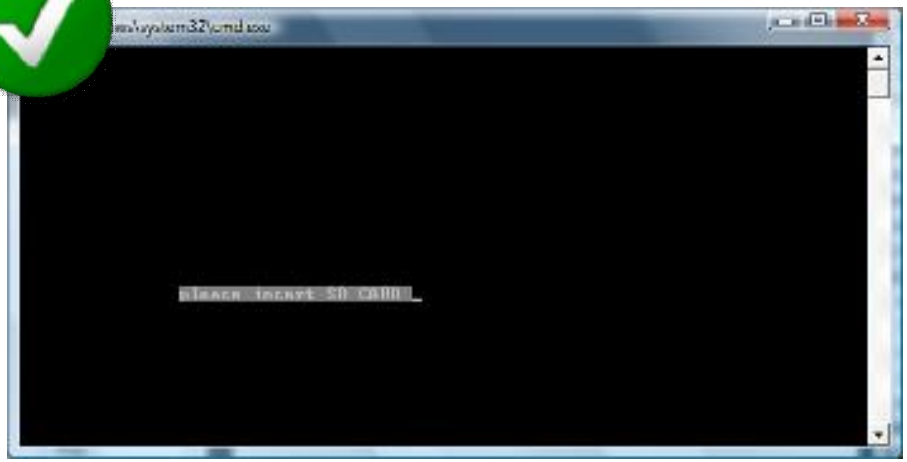
- Insert **MICPHONE** to test.

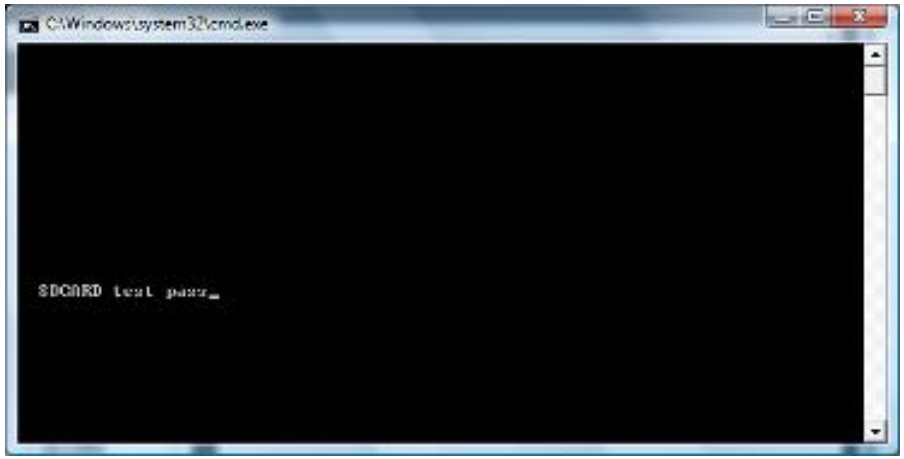


8

MS/SD Test

p Insert the MS/SD card into Card Reader.

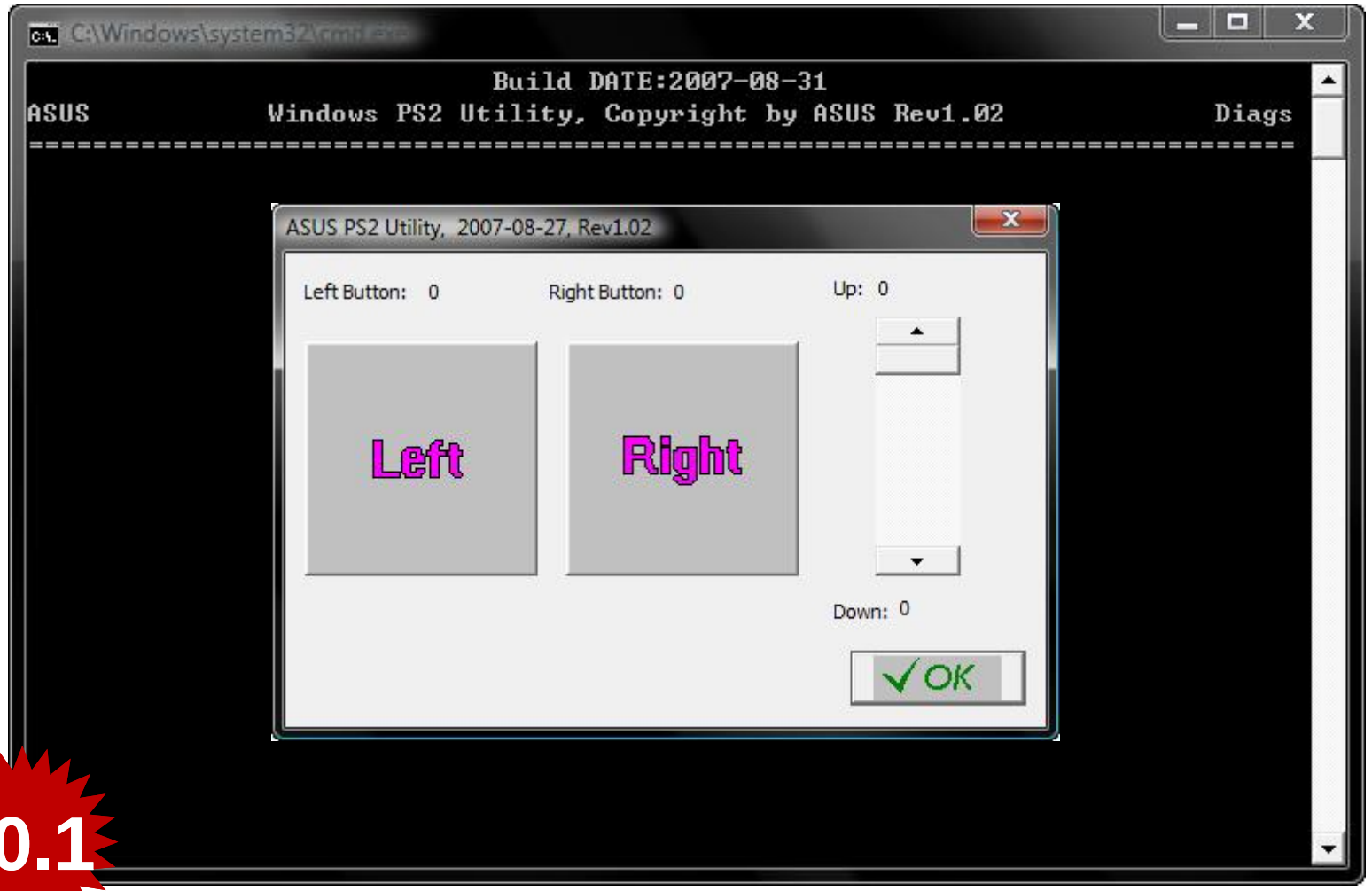




p Test fail will show this picture.

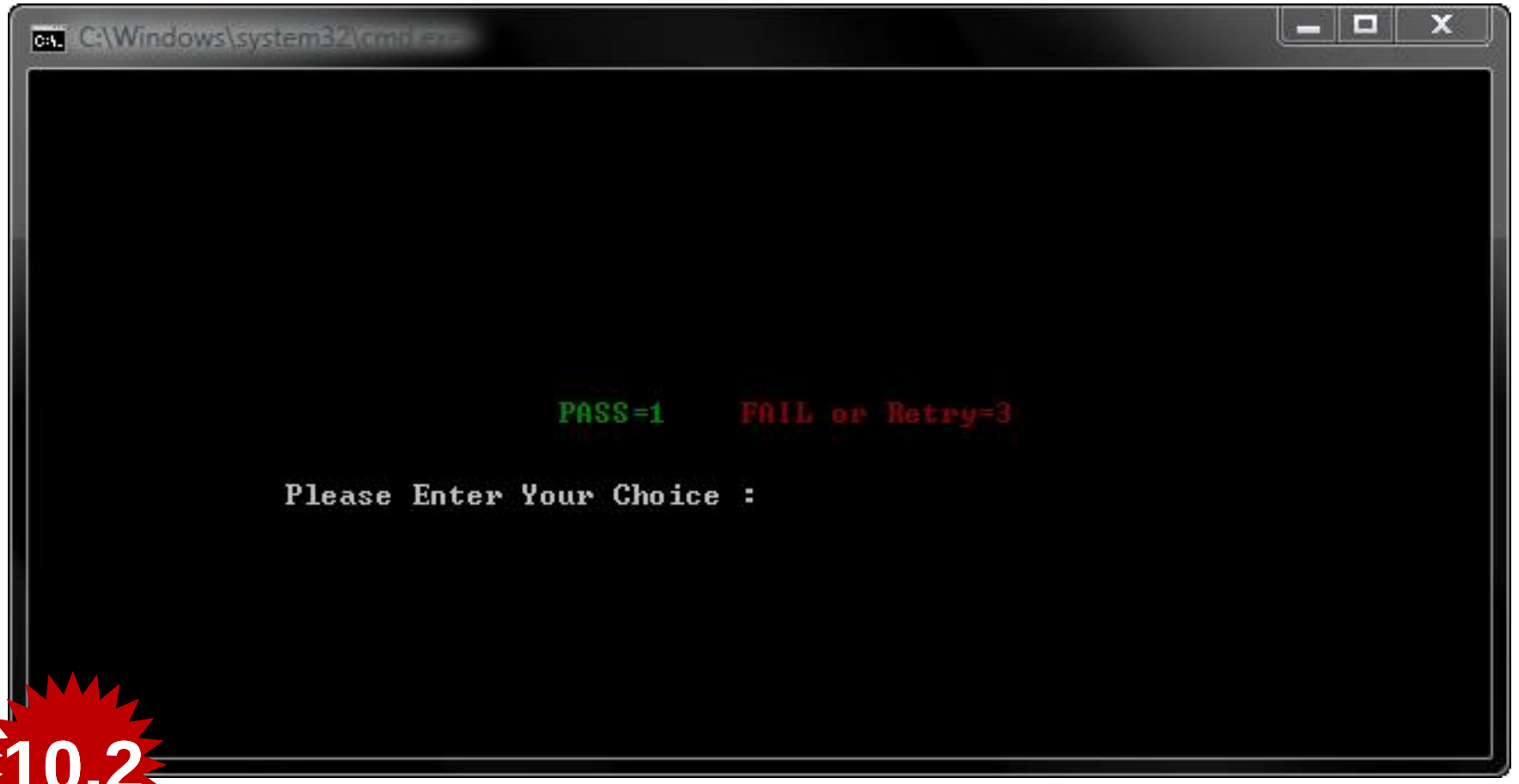
9

TOUCHPAD Test



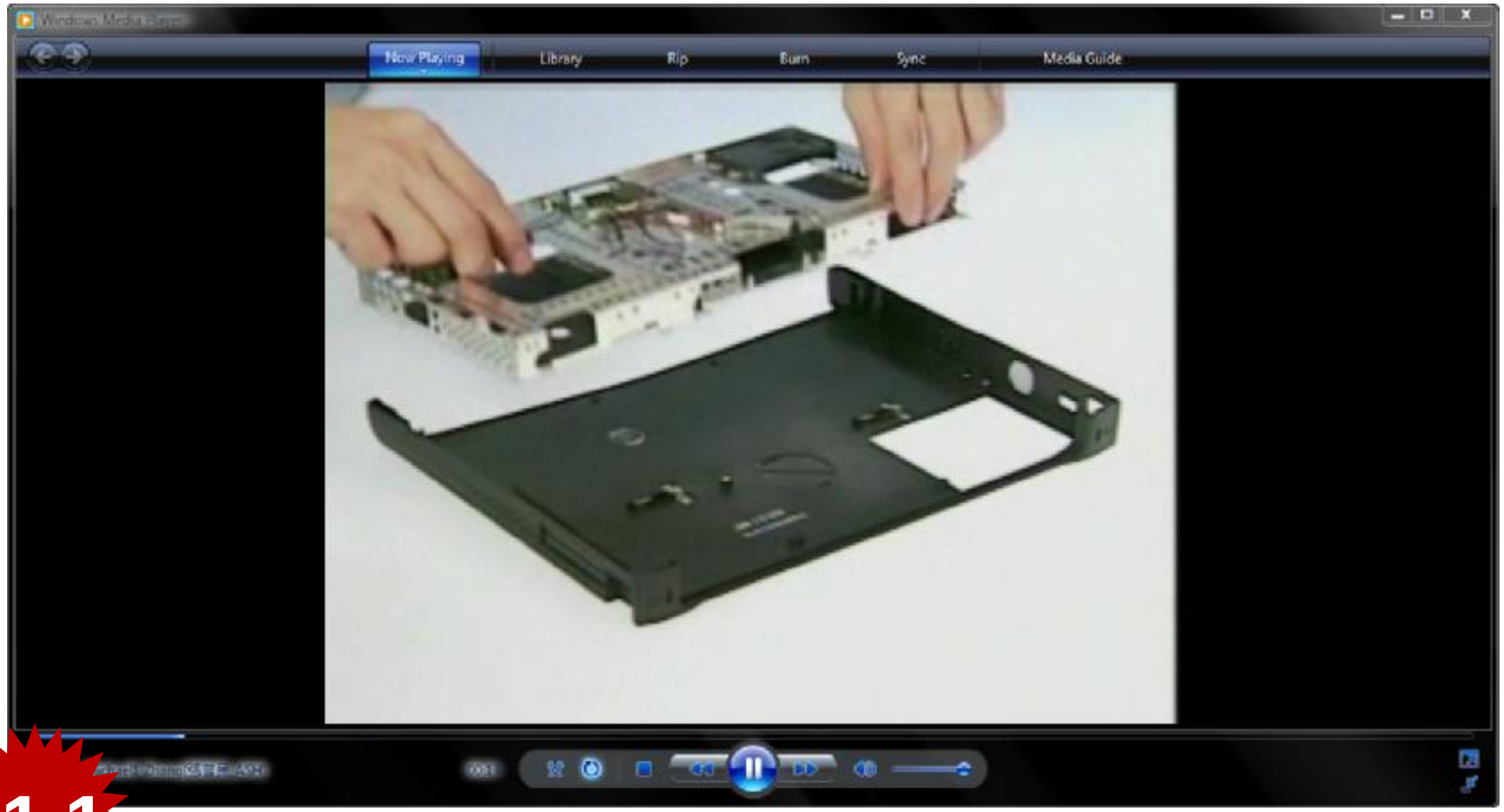
10.1

TOUCHPAD Test



10.2

VCD PLAY Test

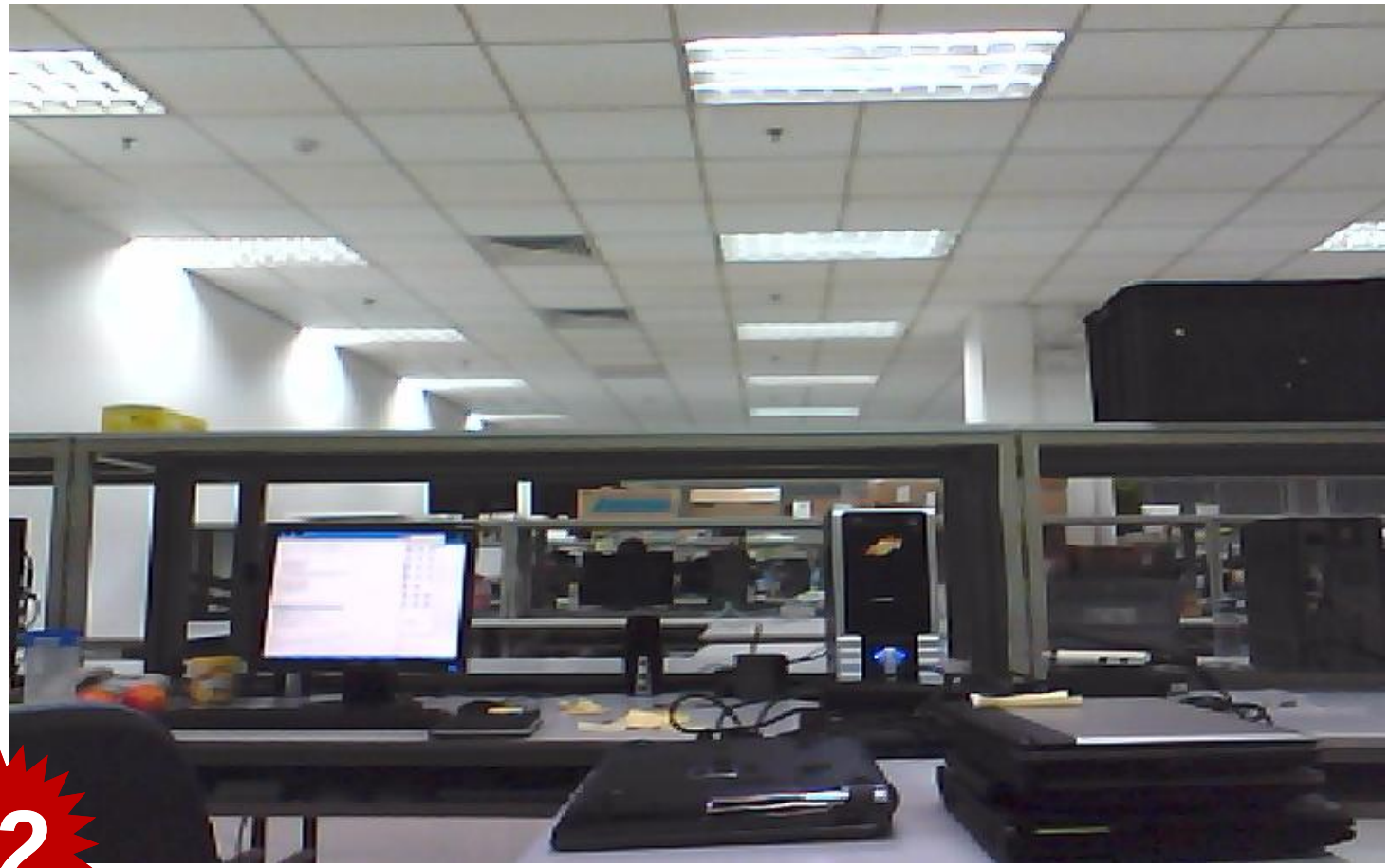


11.1

VCD PLAY Test

11.2

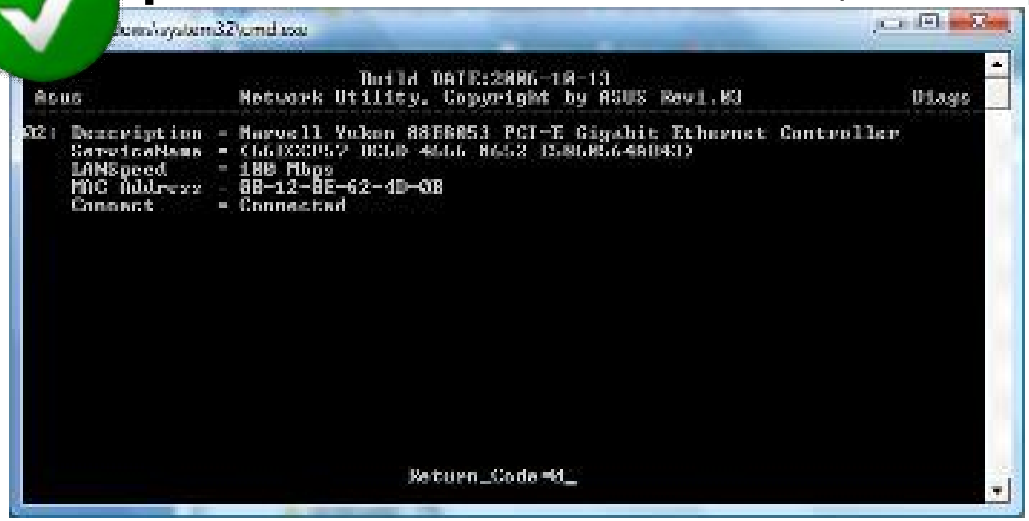
WEBCAM Test



12

NEWCARD Test

p If the NEWCARD is normal, it will appear the below pictures.

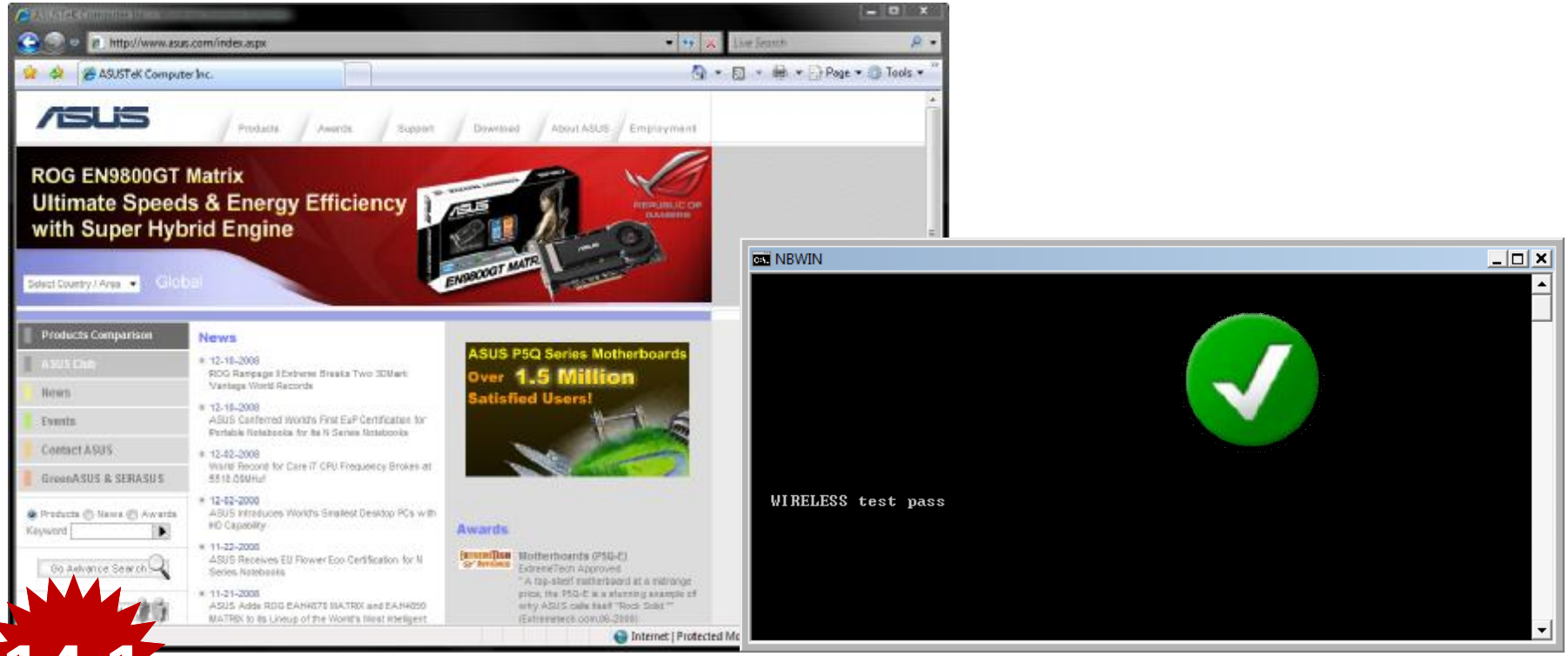


p TEST fail will show this PIC.

13

WIRELESS Test

p If the wireless is normal, it will appear the below pictures.



14.1

WIRELESS Test

p Test fail will show the following pictures.